

Manufacturers Record

Reg. U. S. Pat. Office

Industry Construction



BALTIMORE, MD.

MAY 12, 1932

Definite Action Imperative

Amid the confusion of ideas in Congress about retrenchment in government expenses and getting revenue for balancing the budget, the people are at a loss as to what progress, if any, is being made. There are so many hearings and so many opinions, pro and con, in regard to the reduction of this, that and the other item of governmental expense, that the country is aroused over the failure to get constructive action. There must be an immediate and drastic reduction in expenses, even if it is necessary to change the laws that have produced so many commissions and bureaus of government. Sufficient revenue must be provided to meet what it is hoped will be the new reduced budget.

There has been no satisfying evidence to convince the advocates of a sales tax that this is not the fairest and best method of taxation. A very modest consumer's tax on purchases will provide more revenue and provide it better, with less burden, than any other suggestion that has been offered.

At this period of uncertainty, as to the course Congress may take and what definite program may be adopted while the country is anxiously awaiting relief from the present state of affairs, it is timely to again advance the idea that, in the sales tax, various interests and divergent opinions may be reconciled and a measure adopted that will be fair and just to every industry and taxpayer in the country.

It is urged that this be considered again by those in charge of legislation, men to whom we are looking for definite leadership that will bring us to a basis, at least, from which progress may be started.

Not much in the direction of reducing expenses has been determined upon after weary months, but last week there was an accomplishment on the wrong side. Another pension bill was passed by the House, which involves the expenditure within five years of over \$100,000,000 for widows and dependents of supposed war veterans. That was rushed to enactment by such a majority—316 "ayes" to 16 "nos"—that it creates doubt in every mind as to the sincerity of the effort to save money. Before this is made a law, it is to be hoped that sane counsel will prevail in the upper house.

Why we are selling **PREFORMED WIRE ROPE** *in ever increasing quantities*

During our 86 years in the wire rope business, we have developed many types of wire rope in order to meet severe and exacting demands of wire-rope-using equipment and machinery.

But prior to the perfection of the preforming process, there had been no basic improvement in wire rope. So long as wires and strands were forced to hold their helical shapes against a constant tendency to straighten out, there was internal stress—which in combination with normal bending stresses—was decidedly destructive.

Internal stress is eliminated in LAY-SET by preforming the strands and wires to the exact helical shape they assume in the finished structure. Strands and wires lie naturally in position, giving perfect strand balance—which greatly reduces probabilities of "high" and "low-stranding." Slippage on the drum is lessened, which is another of the many reasons for the longer service and better efficiency of LAY-SET Preformed Wire Rope.

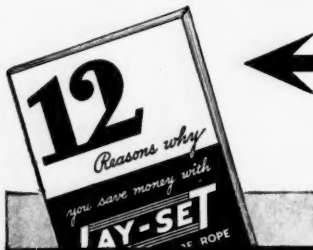
While you may be receiving better satisfaction from Hazard non-preformed wire rope than from other brands of wire rope, you will obtain *still greater service* from LAY-SET Preformed Wire Rope of the same grade and construction.

HAZARD WIRE ROPE COMPANY WILKES-BARRE, PENNSYLVANIA

New York Pittsburgh Chicago Denver Fort Worth Los Angeles
San Francisco Birmingham Philadelphia Tacoma

MAIL COUPON TODAY FOR YOUR COPY...

An interesting booklet which explains and illustrates 12 advantages of LAY-SET Preformed Wire Rope. Every wire rope buyer should read this booklet before ordering another foot of wire rope.



HAZARD WIRE ROPE COMPANY
Wilkes-Barre, Pennsylvania

Send me by return mail your booklet entitled, "12 Reasons Why You Save Money with Lay-Set Preformed Wire Rope."

Name _____

Address _____

Company _____

MAIL TODAY

(Write on margin type of service)

LAY-SET SAVES YOU MONEY

BECAUSE IT GIVES MUCH LONGER SERVICE

LAY-SET gives service which averages between 30% and 300% longer than given by non-preformed rope of the same grade and construction, the variation depending entirely on the nature of the work and type of equipment.

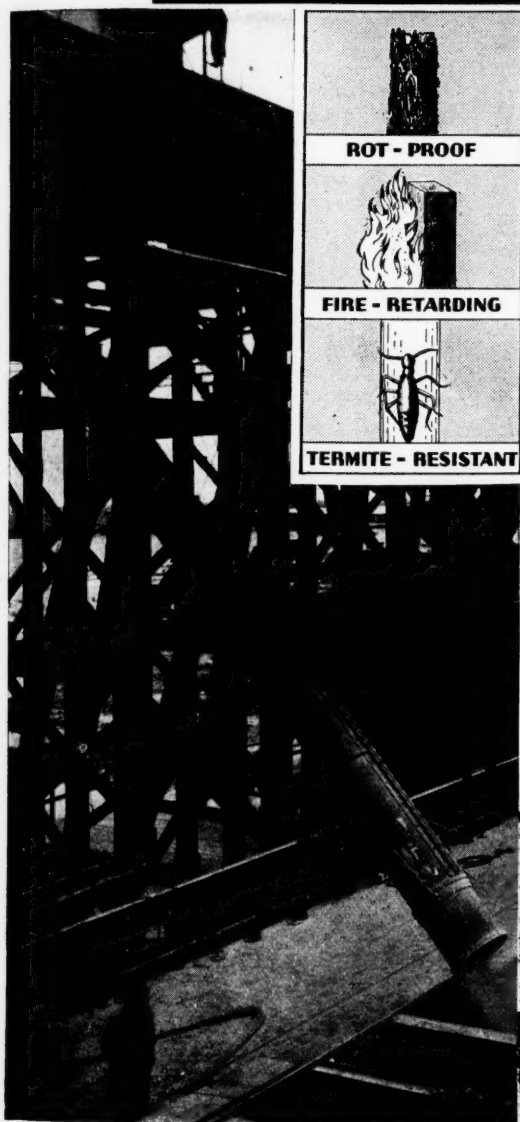
NOTE THE HELICAL SHAPE OF THE REMOVED STRAND



This illustration is made from an honest unretouched photograph. Note how you can remove a strand. You can turn it end for end and fit it back into position, which demonstrates the perfect balance of LAY-SET strands.

Note also that the ends need no seizing—there is no internal stress. Strands and wires lie naturally in position, free and relaxed.

FOR MAXIMUM ECONOMY PRESERVE STRUCTURAL TIMBERS with ZINC CHLORIDE



Naturally it costs a trifle more to treat your mill timbers with Zinc Chloride. But look at the facts. Every penny thus spent means big savings in the future!

Zinc Chloride Treatment Prevents ROT

Eliminates Needless Replacements—Timbers protected with Zinc Chloride have many times the life of untreated timbers. They are rot-proof, termite-resistant, and fire-retardant.

Reduces Cost of Timbers—Sapwoods when treated with Zinc Chloride have equal strength and longer life than the more expensive heart-woods.

Zinc Chloride-treated wood is *clean, odorless, and as readily paintable as untreated wood*. It is ideal for mill, mine and structural timbers, trestles, highway fences, etc.

It has no disadvantages and many economies. You cannot afford to overlook its superior merit.

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There are commercial treating plants located conveniently near you. They will gladly furnish estimates on the cost of treating your timbers. Write us for their names if you wish.

● Send for this free, illustrated book about the advantages of the Zinc Chloride treatment of wood and the valuable economies in mill construction and maintenance.

THE GRASSELLI CHEMICAL COMPANY
629 Euclid Ave., Cleveland, Ohio

Please send me, without cost or obligation, your booklet, "Looking Ahead Twenty Years in Wood Utility."

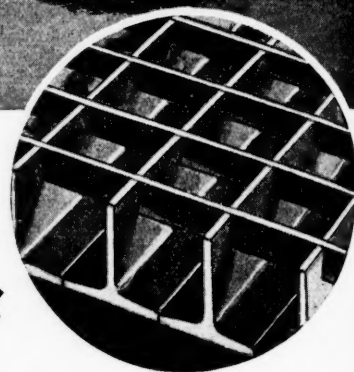
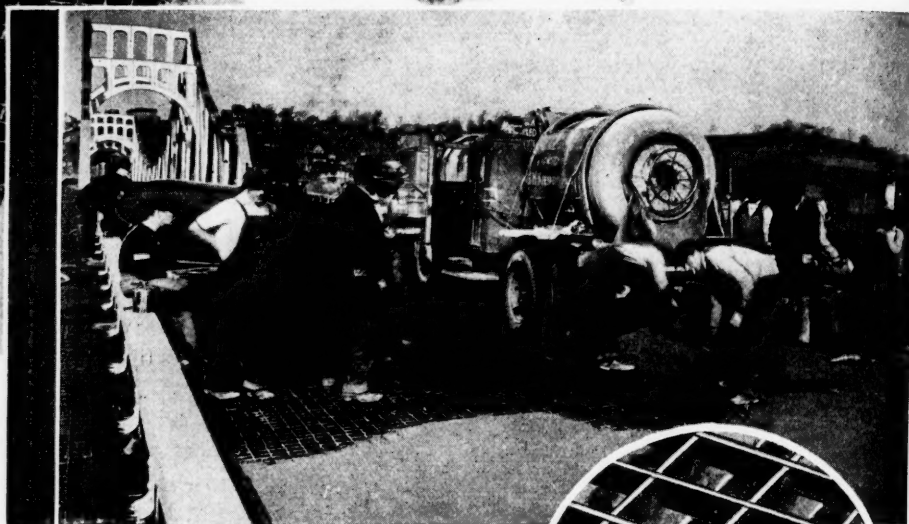
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The fire-retardant quality of Zinc Chloride-treated wood makes its use ideal for bridges, trestles, docks, etc. The above installation in excellent condition after 15 years during which replacements were unnecessary.



GRASSELLI ZINC CHLORIDE

A Positive Preventive of DECAY in Mill Timbers



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WHEN **T-TRI-LOK** is used in bridge construction, it is not necessary to build temporary floors or devise other complicated means of delivering concrete to the job. As soon as the panels of **T-TRI-LOK** have been secured to the bridge stringers, trucks, concrete mixers and other equipment can be driven right onto the floor of the bridge. This immediate use of the floor is no small item of economy and convenience.

T-TRI-LOK provides an armored concrete, non-skid wearing surface of long life and high efficiency. No forms for concrete are required. Send for the booklet "**T-TRI-LOK** Bridge Floor Construction." Carnegie engineers are also at your service.

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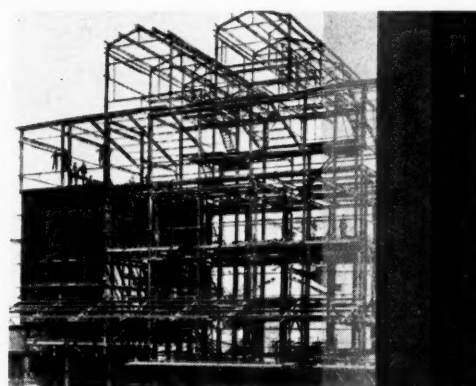
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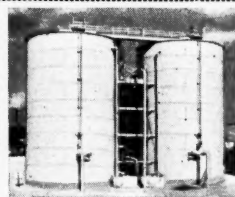
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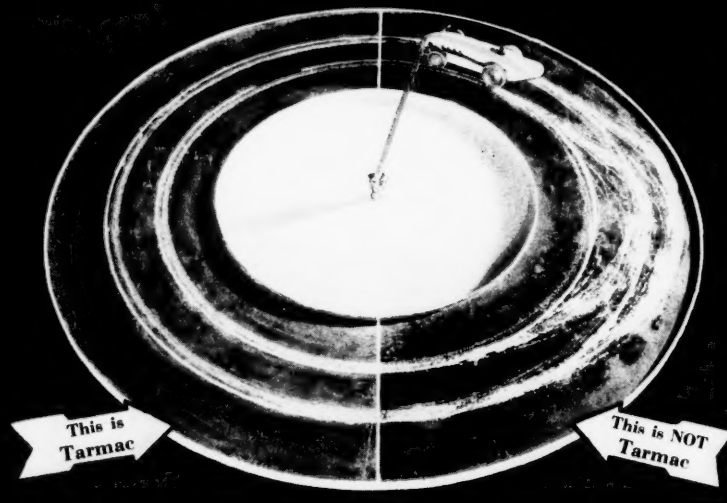
inclusion

BUT Infarated ROADS
STAY THAT WAY

Tarmac
has Infaration*

See next page

Tarmac roads stay skid-resistant because they are skid-resistant by nature. Surfaces that depend on "engineering technique" for skid-resistance grow slippery under traffic



Laboratory test for skidding. Half this track is paved with Tarmac; half with another material. Every effort is made to make the test fair. The automobile is self-propelled. *It skids every time it reaches the other material but straightens up on the Tarmac.* This is an actual un-retouched photograph. The tracks were made by allowing the wheels to pick up whitening.

There is nothing temporary about the skid-resistance of a Tarmac road; the surface is skid-resistant as long as the surface lasts.

There is no chance that it will fail to be skid-resistant; it does not depend upon special procedure in building or special engineering technique. It comes from inherent characteristics of Tarmac—

1. Tarmac in itself is less slippery than many other bituminous materials because it contains no slippery, oily constituents.
2. Tarmac penetrates into the road instead of bleeding up to the surface and this prevents the presence of surplus binding material on the surface. The road surface is therefore granular rather than slippery.

Use Tarmac and you will do better bituminous work . . . your roads will be safer; there will be less skidding; fewer accidents.

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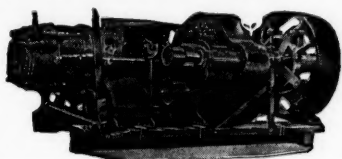
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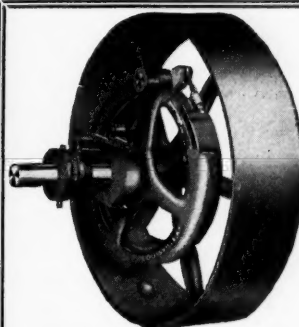
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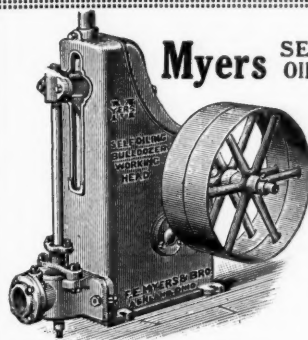
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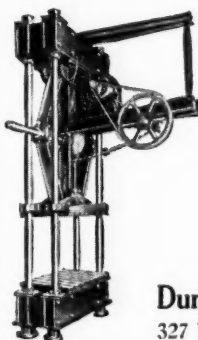
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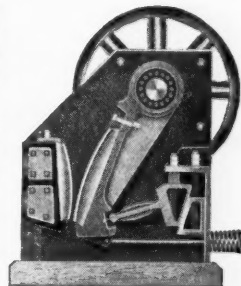
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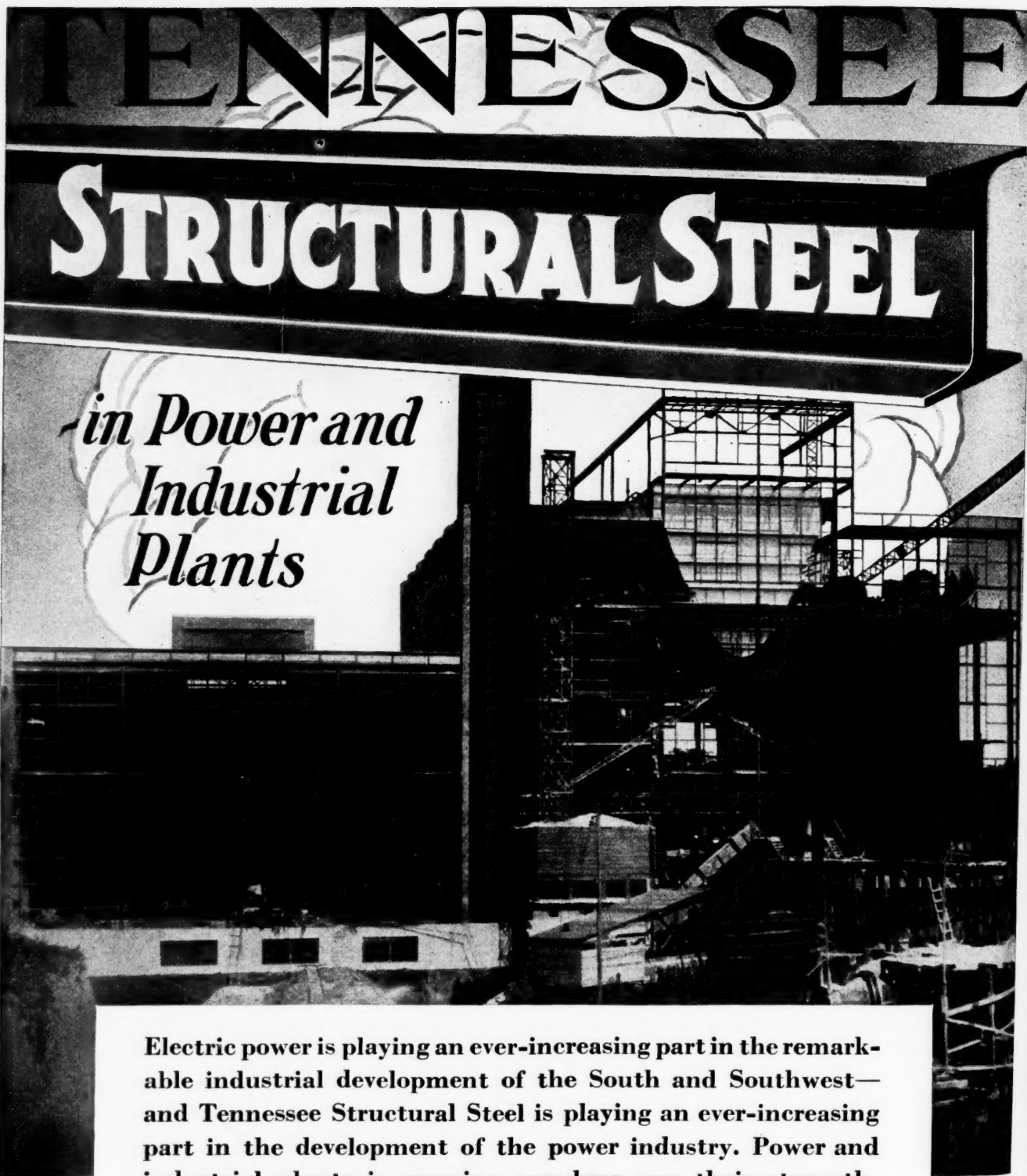
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BALTIMORE, MAY 12, 1932

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Improved Banking Situation

REVIEWING the banking situation in the South, material progress has been noted in the past several months. Banking departments of several states not only report that many banks have been able to resume operations but that bank failures have practically ceased. The assistance of the Reconstruction Finance Corporation is generally recognized as having been largely responsible for the results achieved.

In an encouraging report on the restored confidence in Kentucky, J. R. Dorman, Banking and Securities Commissioner, writes that for the six weeks ending April 30 there have been no state bank failures, and less than a fourth as many banks closed during February, March and April as failed in January alone. Kentucky can now report banks being reopened rather than banks closed. Of the 18 banks closed between January 1 and the end of April, three have been reopened, with plans under way for the reopening of several others. Two banks that closed during the latter part of 1931 have reopened and three new banks have been organized since the first of the year.

Reporting that the banking situation in Mississippi has materially improved in the past six months, and that banking conditions have been stabilized, J. S. Love, superintendent of banks, writes:

"Our people have gone to work and they realize that only by hard work and closest economy can they improve their position.

"The 1932 crop will be the cheapest that Mississippi has made in the past 20 years. Even though cotton does not bring more than six cents a pound, I believe our farmers will be able to realize sufficient income from this price not only to pay their current bills or the cost of producing the crop but also to have something left over to apply on their old indebtedness. Mississippi farmers made abundant food crops in 1931. They have sufficient hay and grain to supply their needs through 1932, which is most encouraging because in previous years a great deal of cash has been sent out of the state for food and feed that should have been produced at home.

"We have had 75 bank closings in Mississippi carrying total deposits of \$18,000,000. We have been able to reopen 43 of these banks on a sound basis, carrying total deposits of a little more than \$12,000,000. The reopening of these banks was accomplished through the splendid

cooperation of stockholders and depositors of the various banks. Proceeding with caution, the Banking Department has weeded out impaired assets and required contributions to the capital structure estimated to be around \$1,000,000, thereby materially strengthening reopened banks.

"Of the remaining closed banks there are at least 12 or 15 that will not be able to reopen. These banks are located in communities that do not warrant a bank or do not have sufficient business to properly support a banking institution or they are located in localities amply served by banks. Many of these closings were due to the restlessness of the depositing public. The fact that we have been able to reopen so many banks is conclusive evidence that the majority of them were not insolvent but were forced to close by heavy withdrawals of timid depositors.

"Banking conditions in the state have been stabilized. We look for very few, if any, failures during 1932, for the reason that the Reconstruction Finance Corporation is rendering splendid assistance in granting loans where needed and where the banks are solvent and are worthy of such accommodations.

"We are encouraged as to the future and believe that with a fair crop and a reasonable price our state will be in very much better condition at the close of 1932 than we have been for the past two years."

Of the 15 state banking institutions placed in the hands of the Maryland Bank Commissioner in 1931, seven have effected reorganization plans through the cooperation of depositors, stockholders and the Banking Department, states J. D. Hospelhorn, deputy bank commissioner. It is the opinion of the department that the efforts of the Reconstruction Finance Corporation to assist the general banking situation throughout the country has had a most helpful effect in this connection.

Banking conditions in Arkansas have shown considerable improvement, writes R. G. Dickinson, assistant commissioner, State Bank Department. Since the Reconstruction Finance Corporation began to function, only one small bank has closed; six banks have been reopened.

Ernest Amos, comptroller of the State of Florida, mentions increase in cash deposits and substantial reduction in borrowed money as indications of the banking situation in that state.

During 1931, there were five small bank failures in

Louisiana, and since the first of the year several of the comparatively small banks suspended, although for the most part only temporarily. Practically all have since resumed business by reorganization, merger, or refinancing, according to a statement issued by J. S. Brock, bank commissioner.

Since January 1 two banks were closed in West Virginia, one because of a defalcation of its cashier; consolidations have been effected by four banks and one bank that was closed in 1931 was reorganized in February. Helen S. Barringer, deputy commissioner, reports a lessening of tension in banking circles.

M. E. Bristow, commissioner of insurance and banking, Richmond, Va., writes that conditions appear to be decidedly better and easier than they have been in the recent past.

In a report by Commissioner of Banks, Gurney P. Hood, Raleigh, N. C., it is shown that while 11 North Carolina banks closed in January, the number dropped to three in February and to one in March. One bank reopened and three more are expected to reopen soon.

R. E. Gormley, superintendent of banks, writes that banking conditions in Georgia are better than for the past several years. South Carolina and Alabama also report improved banking conditions.

Farmers Want Tariff

ADVOCATING a tariff on foreign produced oils and fats, the American Cotton Cooperative Association, New Orleans, representing 13 state or regional associations with more than 200,000 farm members, has gone on record with this resolution:

"Whereas, the importation of foreign-produced vegetable, animal and marine oils is seriously depressing the price of domestically-produced fats and oils to ruinous levels, which reflect themselves in the price of livestock and dairy products, cottonseed, peanuts and other oil-bearing seeds;

"Be it resolved, that the Board of Directors of the American Cotton Cooperative Association in regular session assembled do hereby instruct their officers to cooperate with all other groups of American farmers producing fats and oils to advocate a tariff that will reserve to them the domestic market for such products and that they diligently concern themselves before committees of Congress and otherwise to effect the earliest possible passage of such legislation."

No plainer statement of the need for a protective tariff has been made by any group representing producers in the United States. It explains the changing attitude of the once "Free Trade" South which has learned from costly experience that American living standards cannot be maintained while cheap-labor produced products from abroad are allowed to undermine industry and employment in this country. It matters not whether imports are agricultural raw materials or finished products, to allow them unrestricted entry into the United States is to subject American farmers and business to further depression and workers to further idleness.

\$20,000,000,000 for Needed Modernization

IN the last several months much has been said about the reduction of inventories through surplus stocks being used up. There is also another result of the depression which is beginning to receive attention.

Continued operation of industry on reduced budgets is building up a demand that is now repressed, but which sooner or later will be insistent for replacement equipment and machinery. Curtailment of plant appropriations means an increase in the equipment in need of repairs and more obsolete machinery and equipment.

Francis Lee Stuart, noted consulting engineer and member of the Public Affairs Committee of the American Engineering Council, recently estimated that expenditures of \$20,000,000,000 are needed to modernize existing buildings, obsolete plants, and rehabilitate cities and towns. He asserts there are sound, self-supporting and profitable projects of construction that await approval and the impulse to get under way. These include improvement in sanitation of all kinds, water supply and distribution, sewerage and disposal plants, street paving and road building. Most of these projects could be constructed within our financial ability and with advantage under present-day costs. None are in competition with existing industries. Modernization of existing buildings and obsolete plants alone runs into almost unbelievable sums.

Dr. E. R. Weidlein, director of the Mellon Institute of Industrial Research, calls attention to cheap labor and materials as offering opportunity for plant modernization, and in referring to the fact that science has caused a revolution in industry, he points to a \$7,000,000 industry built upon cellulose in this country and still the scientists know comparatively little about cellulose, while an even larger industry is built upon electricity about which the world knows hardly anything. If such progress has been possible as a result of the comparatively limited research and knowledge of the present, it is impossible adequately to visualize the ultimate development that will come through chemical investigation and invention. The sugar industry is being revolutionized by science, producing building board as a by-product, and many new chemical compounds from sugar are in sight for commercial development. Coal and petroleum are among other primary raw materials which the scientist hardly has begun to develop for their by-products.

Referring again to the statement issued by Mr. Stuart, he shows we have not yet finished improving our own living conditions. We are just beginning to see the necessity, as a business matter, for research to find means for a more equitable distribution of things that lead to well being, and the future holds far more advances than the past. He further reminds us that "complacency, inaction, hesitation and lack of self-confidence are not the forces that made us great. The restoration of confidence transcends all other phases of our difficulties. **I believe that publicity that is understandable is the only way to change**

public opinion and clear away distrust. The sooner we have it, the sooner we will be back to normal."

Understandable publicity, intelligent, consistent advertising, is the medium that is needed to stir lethargic business into activity.

Keith J. Evans, in *Class & Industrial Marketing*, writes:

"As we enter the third year of the depression, we find more companies being forced back into the market for all types of equipment and supplies. This gives advertising its opportunity, for it is important to be on the job, anticipating the situation in a time like this."

America Will Come Through

IN spite of discouraging factors in the present situation, there is more than one reason for encouragement. Some lines are showing more activity, there is definitely more resistance to further price cutting, inventories are lower, striking economies in operation have been effected, and the banking situation has been greatly improved. The necessity for replacement of materials and equipment and for new machinery is piling up a demand for the future. The return of "scared" dollars to circulation and the inauguration of productive enterprises are indications of a growing confidence.

J. S. Tritle, vice-president and general manager of the Westinghouse Electric & Manufacturing Company, in a recent speech said:

"I personally feel we may look forward to a new dawn of social and economic advancement. What we need most today is a rebirth of good American courage, American ingenuity, and the industry of the American people can be depended upon to come through this emergency as it has every other."

Our material resources have not been destroyed, but as he says; public confidence, the foundation of credit and business, has been shaken beyond reasonable justification. As it took some time for business to find that it could not operate on a 1929 basis, so Government must recognize that fact and readjust operations and expenditures accordingly.

Looking to the future, Mr. Tritle sees the electrical industry playing a more prominent part in American progress. Through intensive cultivation, the market volume should increase for rural electrification and for home appliances. In the potential demand for air-conditioning of trains, factories, offices and homes, there is anticipated a new \$5,000,000,000 industry. As the rapid growth of the automobile helped America to overcome a previous depression, so air-conditioning may be the new development that will help to promote business revival.

Depression has retarded the rate of growth we had become accustomed to expect, but as research and engineering are constantly producing new materials, new devices, and new industries, it will not permanently halt American progress.

Postpone Tax Sales

STATE and local authorities should be as lenient as possible with delinquent taxpayers. The soundest course to follow in these times is to postpone the forced sale of property for tax claims. Also, the adoption of an installment plan for paying taxes should be considered wherever it is permissible under the law, or the law should be changed to that end. Such installments, if arranged to extend over a year or two, would often enable the hard-pressed property owner to work out of his difficulty.

In recent months, the collection of taxes in quarterly or semi-annual installments has been receiving greater attention and many communities have been investigating the possibility of following such a plan. Through a special act of the Legislature last year, Alabama allowed tax payments to be made in six-month installments. Such an arrangement is not in effect this year, comments the *Alabama Journal*, but Jefferson County officials under the law found a way to grant an extension to harassed property owners. Under authority of the probate judge, postponements are being made for 60 days at a time, the judge being permitted to set back the date for no more than one term of the court.

While there is a multiplicity of property sales for taxes noted throughout the country, not all such foreclosures mean that the owners will forfeit their property. Many will redeem their possessions, for that privilege is open in some localities for some time after notice of public sale is given. In at least one state, over three years is allowed for the redemption of property taken over for taxes.

Likewise, the delinquent tax lists in some states are not as large as have been reported. Reference has appeared in the press, and even in Congress, to 60,000 farms being held for taxes in Mississippi. Secretary of State Walter Wood states that the total number of farms sold for taxes will be less than 22,000, and they are "far from being the best farms and homes in Mississippi." Also, owners of this property have not been dispossessed; they have two years in which to redeem it and can continue to live thereon.

While property tax sales this year are larger in number than in the past, the *Charlotte Observer* suggests that to some extent this may be accounted for by indifference, and opportunity to hide behind the "depression" dodge. Nevertheless, according to the *Observer*, it is unusual for county or city, at least in North Carolina, to come into actual possession of land or homes, for the people "sold out" know they have three years in which to redeem their property, and generally do redeem it before the expiration date.

If provision is made whereby taxpayers can pay in installments, both the state and the burdened taxpayer will be benefited.

Repetition is the greatest power in advertising today.—
Printers Ink.

The Fire Insurance Industry Proves Its Stability



J. T. Robertson

INSURANCE provides the means of distributing the losses of the few among the many. The experience of every company participating is necessary, if this distribution is to be accomplished with fairness to all. It cannot be highly competitive if it is to do justice to all, and in the attainment of its aim it is entitled to a reasonable profit.

The Federal Government, the State and municipalities are in a measure holders of partnership interests in this great business, for it will be found that the insurance industry pays in taxes an amount considerably larger than the amount accruing to the stockholders in the form of dividends. It probably reflects the pulsating action of general business more directly than any other. Volume rises with the tide of increased values and ebbs with their decrease. The limits of fire insurance can be estimated with fair accuracy, but there is practically no limit to life insurance because it is fixed upon the value of life, which is intangible.

Fire insurance and all other forms of property insurance follow the fluctuation of property values and are limited by that fluctuation.

During 1930, property values of over \$350,000,000,000 in the United States were protected by stock fire insurance companies, according to the record of companies reporting to the New York Insurance Department. The mortgage interests of the country, the wholesale and retail dealer, the manufacturer, the home owner and tenant, all were alike dependent on this great institution, and the record of the years will show that this obligation has been loyally met.

Fire insurance companies are passing through a period when investment losses have been sustained to an amount far in

By

J. T. ROBERTSON

Vice-President and Secretary,
Fidelity and Guaranty Fire Corporation,
Baltimore

The South pays out for fire insurance premiums \$115,000,000 annually. The premium income account of Southern fire insurance companies is \$25,000,000, and a part of this comes from risks outside the Southern States. There is evidently a great field here for the development of a necessary business. Reading the facts presented in this article, it is surprising that, with the growth of the South's manufacturing interests, fire insurance has not developed in proportion.

It is claimed that restrictive laws, however good in intention, do not work to the advantage of either the insurance companies or the insuring public. Excessive taxation applied to out-of-state companies has been a detriment to local organizations because of the reciprocal laws of other states; also the methods of state-rate-making present difficulties or even make it impossible for the companies to show a profit on the business.

A better spirit of cooperation toward insurance companies, similar to that extended in other fields of activity, should bear excellent results.—Editor MANUFACTURERS RECORD.

excess of fire losses in the worst conflagration years, losses such as no amount of foresight could have provided for, because they had nothing to do with the main purpose of the business, which is insurance. During these years, indemnity losses have been heavy but such contingencies have been experienced heretofore also, and though serious they are not serious to a vital extent.

The nature of the business requires investment in securities of a readily negotiable nature. Funds must be sufficiently liquid to make it possible for companies to provide for conflagration years and other bad loss years. The rise in market values up to September, 1929, resulted in a like rise in the company investment portfolio, since largely wiped out, and this experience of fire companies in the investment market proves clearly, if it has no other effect, that credit in rate should not be given for accretion in income due to investment. Were rates to be based upon such a premise, the adverse market would require appreciable advances at the present time.

Stock fire insurance well may take pride in the record of the past three years. Despite unusual conditions, these companies have met their obligations promptly and fully over a period when failures have been prevalent, bank failures alone having numbered between 2000 and 3000 in 1931.

We have seen the rise of values, and the trend toward stock dividends and cash dividends and combinations and expansions, when it seemed there would be no end to the ever-spreading growth of investment values and income. Through it all the underlying principles of the fire insurance business have proved sound and it still has a substantial foundation of premium production which, though somewhat depleted, is yet large enough to insure a solid structure, and to provide a basis for continued growth.

Assets of 383 companies at the end of 1931 were \$2,369,244,000, premium income for the year was \$772,823,000, and losses incurred amounted to \$432,025,000.

Premium income declined a fraction over 20 per cent compared with 1929.

*Investment of Fire Insurance Assets,
383 Companies, 1931*

Item	Amount
Mortgages and realty.....	\$165,000,000
Bonds	
Government	\$175,000,000
State, county and municipal	170,000,000
Railroads	285,000,000
Utilities	185,000,000
Miscellaneous	100,000,000
Total bonds	915,000,000
Stocks	
Railroads	\$185,000,000
Utilities	180,000,000
Banks, building as- sociations, etc.....	260,000,000
Industrial and mis- cellaneous	310,000,000
Total stocks	935,000,000
Cash in bank	125,000,000
Other assets	230,000,000
Grand total	\$2,370,000,000

The total of fire premiums for the Southern States in 1930 was \$115,000,000. Of this, an appreciable amount was written in Southern companies whose share of the country's business in that year was over \$25,000,000.

Investment of Assets of 67 Fire Insurance Companies in the South, 1930

Item	Amount
Realty	\$3,577,147
Mortgage loans	11,703,933
Bonds	
Government	\$9,216,495
States, etc.	10,503,758
Rails	4,086,059
Utilities	2,769,173
Miscellaneous	8,250,848
Total bonds	34,826,333
Stocks	
Railroads	\$2,680,130
Utilities	4,380,516
Banks	1,969,278
Miscellaneous	9,537,769
Total stocks	18,587,693
Cash in bank	5,932,498
Other assets	5,548,665
Grand total	\$80,176,269

The loss ratio in the Southern States for 1930 was 65-7/10 per cent, decidedly an unprofitable showing. The South has been slow in the development of insurance companies, and until the business reaches a point where at least a reasonable profit may be expected, capital will not be attracted to the field.

Considering the great progress the section is making in manufacturing, we shall look forward hopefully to a sizeable growth in insurance, when every state will have one or more companies of appreciable size seeking a share of the fire insurance business, countrywide.

\$863,000 Federal Building Bid

Knoxville, Tenn.—Low bids to erect a new United States post office building here have been submitted to the Treasury Department, Washington, Jas. A. Wetmore, Acting Supervising Architect, by A. W. Kutsche Company, Detroit, Mich., at \$863,500, using white marble, and at \$932,950, using Tennessee pink marble. Baumann & Baumann are the architects.

Oklahoma City Air Terminal

The central feature of the Oklahoma City Air Terminal, formally opened in April, is the Administration Building which is of fireproof construction, four stories high with basement. The airport has also a fireproof hangar 120 by 110 feet, and another 120 by 120 feet. The field is well fenced. All runways are one mile long or more, with gravel strips in the center 150 feet wide; the rest of the area is being sodded with Bermuda grass. The longest runway measures 7200 feet and is 300 feet wide. There are two runways 5200 feet by 500 feet each.

The air terminal building provides a special waiting room on the first floor, together with rest rooms, kitchen, coffee shop, soda fountain space, parcel storage room, ticket office, express room, mail room, chart room, barber shop, two telegraph offices and several shop rooms. On the second floor are eleven rooms for offices, as well as office space for the field manager. On the third floor space

is provided for the Department of Commerce and Weather Bureau officials. The control tower is on the fourth floor. Langbein & Johnston, Oklahoma City, were architects for the structure.

Contractors for the project were:

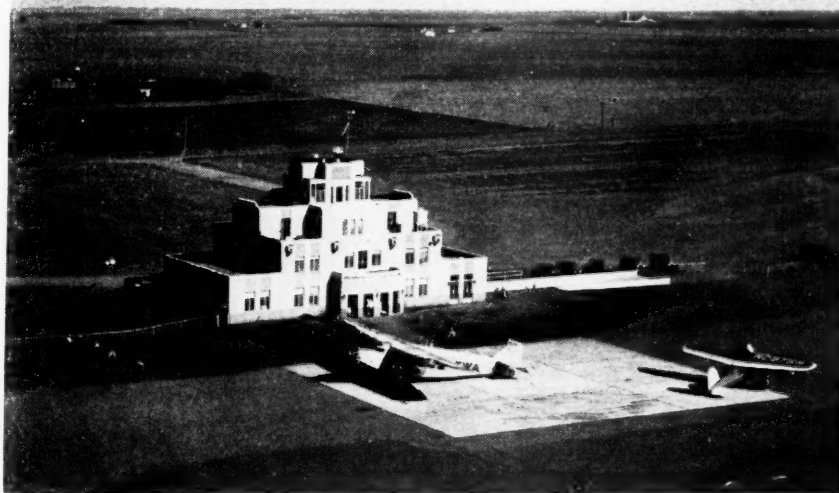
Administration Building—Secor & James, Oklahoma City, general contractors; Swafford Plumbing Co. and Griffith Electric Co., subcontractors.

Hangar—Secor & James, general contractors; Griffith Electric Co. and Swafford Plumbing Co. subcontractors.

Fencing—Cox Fence Co., Oklahoma City.

Hangar No. 2—R. H. Dobbins, Oklahoma City, general contractor.

A storm sewer was installed by the M. A. Swatek Co., Oklahoma City; the sanitary sewer installation was by Earl W. Baker Construction Co., Oklahoma City, and the grading work was handled by the Dan Blackburn Construction Co., Ardmore, Okla. The water system was installed by the Sherman Machine & Iron Works, Oklahoma City. Field lighting facilities were provided by the Griffith Electric Co., Oklahoma City.



Recently Completed Administration Building at Oklahoma City Airport

\$1,700,000 Bonds Bring Premium

Kansas City, Mo.—Ten-Year Plan bonds in the amount of \$1,700,000 have been sold by Kansas City, H. F. McElroy, city manager, to Dillon, Read & Co., New York, at par and premium of \$82,455. The bonds, to mature serially from 1934 to 1972, will bear an interest rate of 4¾ per cent. Improvements for which they are intended include: Trafficways, \$100,000; sewer improvements, \$500,000; Blue River flood control, \$250,

000; park and boulevard improvements, \$400,000, and completion of Brush Creek improvements, \$450,000.

Atlantic Highway Association

Plans are being completed for the next convention of the Atlantic Highway Association to be held at Hollywood, Fla., July 12 to 16. More than 1400 delegates, representing coastal highway cities from Canada to the tip of Florida, are expected to attend.



\$1,500,000 Paper Plant Built in Record Time

A \$1,500,000 improvement program, initiated last October because of the management's desire to ameliorate the unemployment situation and to take advantage of low costs, has been completed at the Canton, N. C., plant of the Champion Fibre Company. Within less than six months after the order was placed, the largest book paper-making machine ever built was installed and the necessary buildings to house it and auxiliary facilities finished. On October 12, the Pusey and Jones Corporation, Wilmington, Del., received the order for the

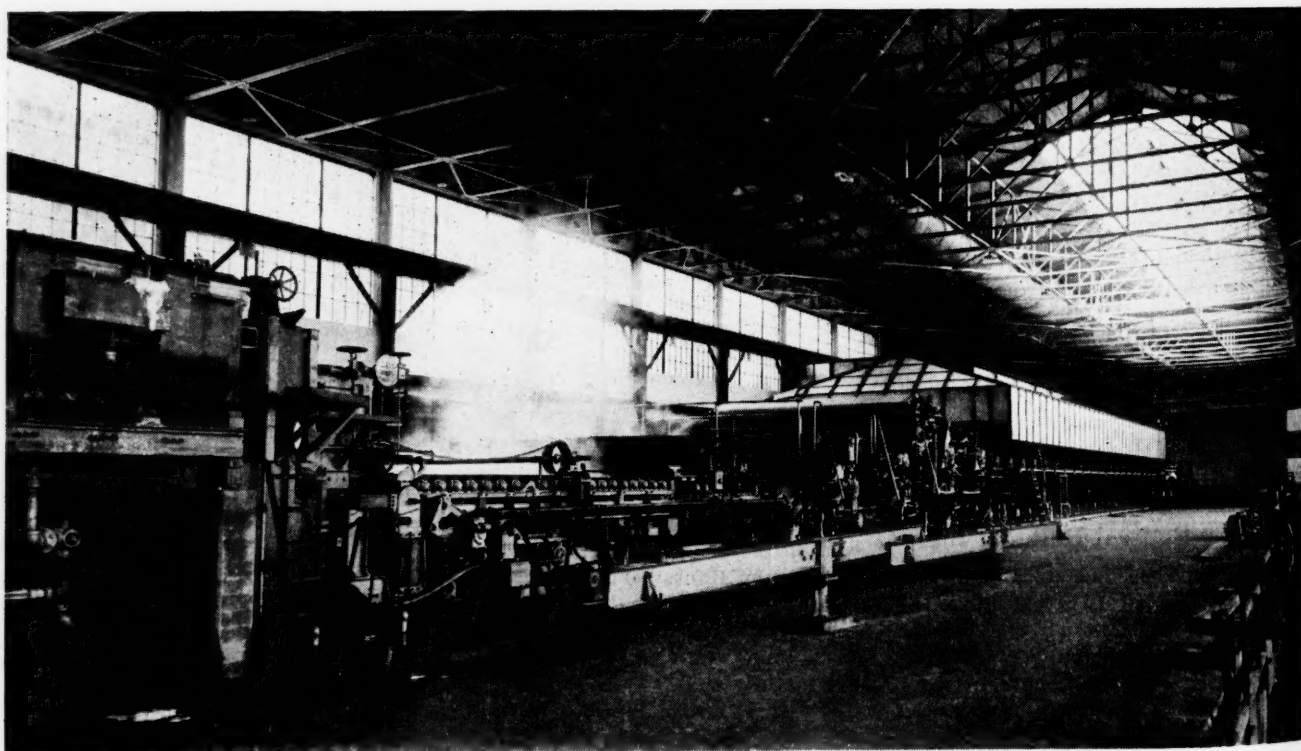
machine. On October 26 actual construction work on the additions to the plant was started by the Morton C. Tuttle Co., contractors of Boston, Mass. At the end of 146 days after breaking of ground, paper was being turned out by the new machine, a record which the Fibre Company believes has never been approached before.

Three new structures were erected adjacent to existing buildings. They cover a ground area of 66,300 square feet, affording a total of 157,700 square feet of additional working floor space,

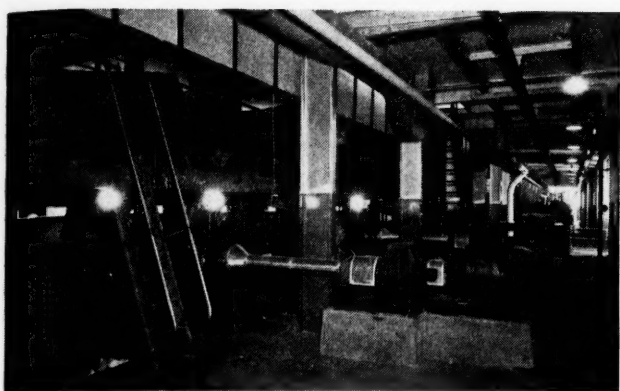
with a total building volume of 3,392,000 cubic feet.

The beater room extension is 54 feet long and 120 feet wide, 3-story and basement, of reinforced concrete construction. The machine room is 352 feet long and 110 feet wide, 1-story and basement, of reinforced concrete construction, with structural steel superstructure. The main portion of the machine room building is sufficiently wide to provide for a possible future installation of a duplicate paper machine.

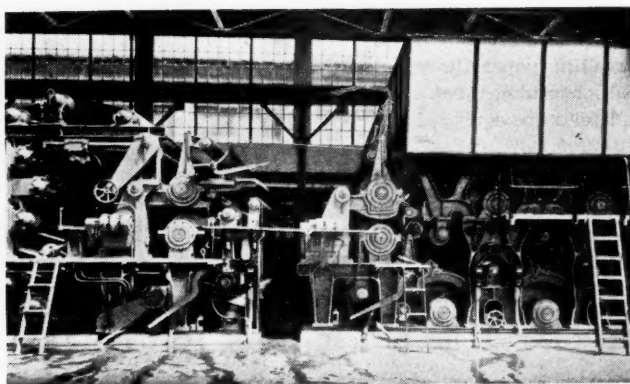
The finishing room extensions consist



Machine From the Wet End, Fourdrinier Part in Center of Picture



View of Machine Along Driving Side



Third Press, Smoothing Rolls and Dryers

of two additional areas added to the east and south sides of the existing building, affording 63,200 square feet of additional working floor space for the finishing of the product of the book mill. Considerable additional storage space and increased shipping facilities are also afforded in these extensions. The structure is 2-story and basement, of reinforced concrete construction, with structural steel superstructure. The easterly extension is 108 feet long, 208 feet wide on its westerly side and 120 feet wide on the easterly side. The southerly extension is triangular shaped, 67 feet wide at the easterly end of the machine room and 90 feet long.

The exterior appearance of the building extensions adds to the attractiveness of the plant, with their concrete framework, red brick curtain walls and large steel sash. They have plain, well propor-

tioned concrete parapets and cornices.

On the main floor in the beater room there have been installed six Dilts 2000-pound beaters and six Jones Majestic Jordans, which, with a filter type thickener and screw conveyor system on the floor above supplying individual measuring tanks over each beater and four horizontal, tile-lined concrete chests in the basement, provide for the preparation of stock for the new machine. The top floor of this building affords storage space for pulp.

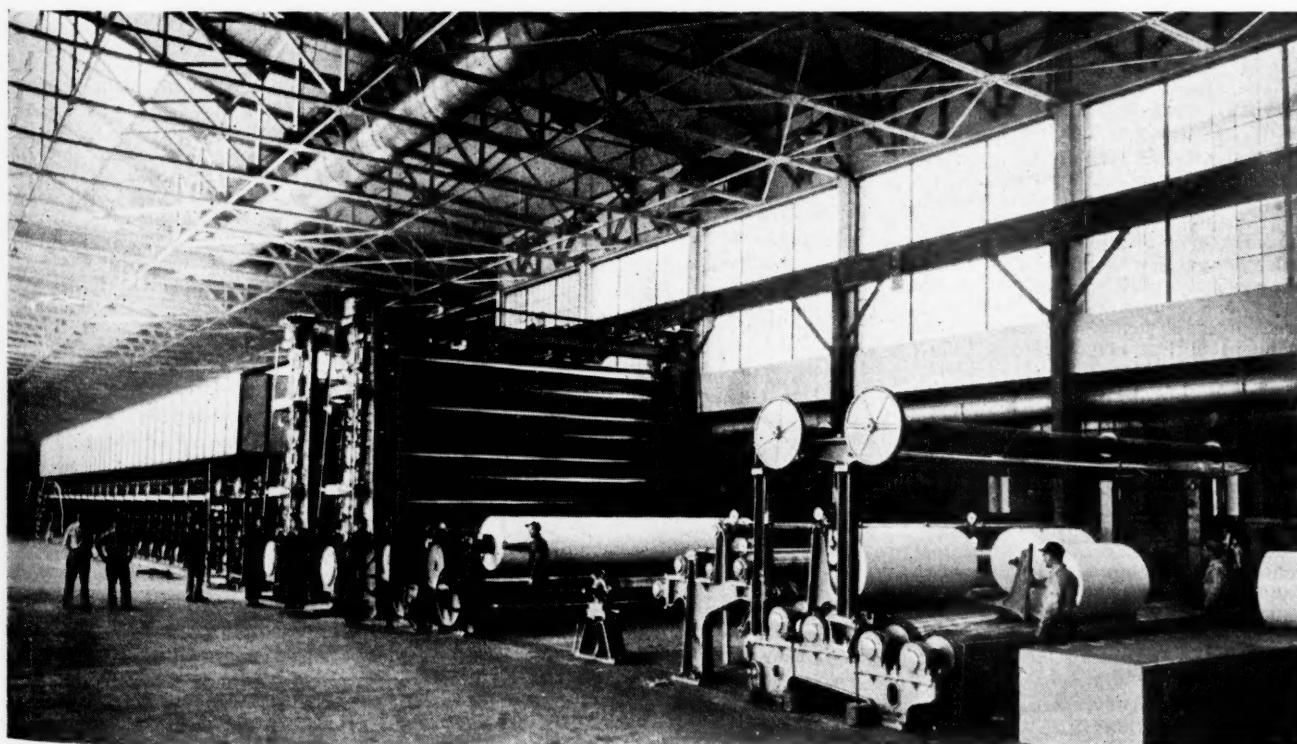
In the new machine room is the new paper machine manufactured and erected by the Pusey and Jones Corporation. Ahead of this machine are five Moore and White 24-plate rotary screens, and one 12-plate flat screen.

The abridged specifications of the new paper machine, with the exception of a few special features, are here given.

The head box is of cypress, copper lined, in combination with Voith stock inlet.

The Fourdrinier part is arranged for wire 85 feet long, 242 inches wide; a 36-inch diameter suction couch roll with cantilever attachment; 7-flat suction boxes having motor driven oscillating device; 10-inch diameter table rolls; 26-inch diameter breast roll; removable type wire handling arrangement; high-speed shake and adjustable pitch device.

The press part consists of three 32-inch diameter rubber covered lower press rolls, and 28-inch diameter upper stone rolls, the third press being arranged with reversed belt. One set of smoothing rolls is mounted on the end of the dryer frame next to the third press for removing any wire and felt marks before they are indelibly dried into the paper. These rolls are inter-



The Machine From the Winder End of the Tending Side

changeable with the press rolls. A Sheahan patent rope carrier is used for threading paper through the third press and smoothing press. The first and second felts are equipped with Vickery conditioners.

The dry part consists of 40 60-inch diameter drying cylinders, six 48-inch diameter felt dryers, 16-inch felt rolls, Sheahan rope carrier for feeding paper, and gravity feed lubrication system for main dryer bearings. All bearings are of the anti-friction type, the dryers being all geared together in one section driven by four motors. The housing and driving of the drying cylinders on the back side involve an improved arrangement of small gearing enclosed in the frames, equipped with anti-friction bearings and arranged for continuous lubrication, designed to insure safety for the operators and provide more open spaces between dryer cylinders for the removal of paper by means of air from the back side. To insure uniform drying of the paper each dryer is equipped with a Fulton vapor circulating system, with Foxboro temperature control.

There are two stacks of calenders, the first containing seven rolls and the second nine rolls; 20-inch diameter top;



Showing Heavy Reinforced Concrete Construction, Electric Conduit and Piping in Beater Room

18-inch diameter intermediate; 20-inch diameter next bottom, and 34-inch diameter bottom rolls equipped with flexible ductors.

There is a 2-drum uniform speed reel with 42-inch diameter driving drum;

also an improved unwinding stand with water-cooled friction arrangement.

All running parts are constructed and tested for a maximum speed of 1200 feet a minute, with a minimum operating speed of 75 feet a minute, which can be obtained by means of a General Electric sectionalized electric drive.

A Moore & White 4-drum winder with Reliance individual motor drive completes the equipment necessary to produce a grade of book paper in quality and sizes to suit the exacting demands of a customer's specifications.

All ductors, except on the Fourdrinier part, are equipped with Vickery type flexible blades. The suction couch, Fourdrinier flat boxes, press felt box and felt conditioners are connected to Nash suction pumps. The dryer part of the machine is covered with a panel-type transite hood, with exhaust fans to the atmosphere.

In the basement of the machine room are located the control room and motor generator set for the paper machine electric drive; the necessary vacuum, stock and water pumps, broke beater, principal piping and all auxiliary equipment necessary for the operation of the paper machine.

Firm Bidding Would Be Helpful to All Interests

Oettinger Lumber Company

Greensboro, N. C.

Editor *Manufacturers Record*:

I wish to commend you for putting on this campaign for Firm Bidding. Unfortunately the building industry is so unorganized that it makes the concerted action of all a very hard problem.

Regardless of the small amount of present building, subcontractors as a whole would receive almost the same distribution through firm bidding, and standing pat on that bid, as they do today by cutting their bid. Continuance of present methods means final bankruptcy. To continue in business, a small profit must be made, and there certainly is no profit left after original bids are cut anywhere from 15 to 20 per cent.

We feel certain that general contractors would welcome the time when all subbidders would make their first bid their last one. It would avoid the element of gambling at the expense of the subcontractor and to their own detriment.

A large general contractor told me recently that his company discounted their sub-bids 15 per cent usually, and then usually lost the job and that if the subcontractors would put in their lowest bid in the beginning, this condition would quickly end.

We cannot forget we are going through a period with very little new construction work, certainly not enough to keep the general contractor busy, and insufficient to keep the factories of sub-con-

tractors more than perhaps 50 per cent busy. All are bidding very low, making an effort to keep organizations intact, and maintain a pay roll for employees depending on them for a livelihood. Until there is more building, we are up against a hard proposition, and your campaign, if adhered to by subcontractors, would make the road much easier.

J. R. OETTINGER.

\$600,000 Post Office Bids

Jefferson City, Mo.—Bids will be opened May 26 in the office of Jas. A. Wetmore, Acting Supervising Architect, Treasury Department, Washington, for the construction of a \$600,000 post office building here, exclusive of elevators and lighting fixtures. The building will be 3 stories and basement, 83 by 108 feet. Egerton Swartwout, New York, and Klipstein & Rathmann, St. Louis, are the architects.

The spoken word is soon forgotten. When you want to remember anything you write it down. The spoken word leaves no record. Wild statements made in talk go unchallenged; even the fact that they have been made can rarely be proved. Advertising places the manufacturer and the merchant on record. They must live up to statements made in writing. It is your protection.—*Ventura Free Press*.

\$600,000 Hospital Building

New Orleans, La.—Bids will be opened June 13 by the Board of Administrators of Charity Hospital of Louisiana for the construction of Lapeyre Miltenberger Home for Convalescents. Proposals will be received on the following contracts: General, mechanical equipment, electrical work, elevator and miscellaneous work. The building will be 8 stories and basement, 80 by 100 feet. It will be built under a \$600,000 bequest of the late Mrs. Corinne Lapeyre Miltenberger. Weiss, Dreyfous & Seiferth, New Orleans, are the architects.

New Industries on Katy Lines

St. Louis, Mo.—Industries continue to seek locations on the Katy Lines, twelve new ones representing an investment of more than \$207,000 having located in April. It is estimated that these will create jobs for 168 persons and originate 2920 cars of new traffic annually. According to A. E. Gilman, manager of Katy's industrial department, the location of these industries is evidence that the territory is steadily going ahead with expansion plans. In the first four months of the current year, 52 enterprises located in Katy territory, representing a combined new investment of \$826,300.

What Price Taxes

By
S. W. UTLEY
President,
Detroit Steel Casting Co.

COMPARED with 1913, the public expenditures of the United States in 1930-31 have increased 402 per cent. The total cost of all branches of government in the United States, local, State, Federal, in 1913 was \$2,900,000,000. In 1929 this cost had increased to \$13,000,000,000 against a national income of \$85,000,000,000, or 15.3 cents from each income dollar. In 1931 the estimated income dropped to \$52,000,000,000, while the expenditures increased to \$14,000,000,000, or 27 cents from every income dollar. The cost to this Nation of the World War for the 19 months in which we were engaged was \$22,600,000,000; the cost of running the peace-time Governments of the United States for the last 24 months was \$27,500,000,000. The total cost of government in this enlightened country during the last eight years was \$99,000,000,000.

Of these colossal sums, taking the year 1929 as an example, as it is the last one for which complete figures are available, the State governments were responsible for 15.3 per cent, the Federal government for 30.1 per cent, and local governments for 54.6 per cent. While I may seem to emphasize the Federal situation, do not for a moment overlook the fact that for every three dollars the Federal Government requires from you, your local government requires seven more, and that these local expenditures, although they cover no direct war debt, have increased more rapidly than national expenditures. As an example, in the case of our own manufacturing company, which owns practically no more real estate, no more buildings, no more equipment (depreciation being properly considered), than it did 20 years ago, our city taxes have increased 6.3-fold; our county taxes 19.4-fold; and our state taxes 12.8-fold, multiplying the burden for taxes per ton of normal output by ten times what it was before. In addition, local taxes are a preferred lien against capital itself, while generally speaking, Federal expenditure imposes a tax only when business produces a profit. Set down in one column all the taxes of all kinds you have paid on your business since 1925, and in another the income remaining for your stockholders and the perpetuation of your business for your owners, your customers and your employees. If you haven't already

individual and national, has decreased tremendously, prices have gone down, wages have gone down, profits have largely vanished, but taxes have increased and now take twice as much of the income as they formerly did and their relative gain probably offsets most of the savings we have otherwise made.

To the business man the answer seems clear and unmistakable. Governmental costs must be reduced, non-essential services must be curtailed, budgets must be balanced by *lowering expenditures*, not by constantly finding new methods of taxation. There is no unit of government today which is not paying for activities which have long since ceased to be useful, or which never should have been included in governmental activities. There is no unit in which expenses cannot be materially reduced provided there is the will and determination to do so.

As this is written, the question which is supremely agitating each member of Congress is whether to listen to the voice of the organized veteran and pass out a \$2,000,000,000 dole to be added to the present deficit. In most cases it is being considered not from the standpoint of the balance sheet of the treasury, but from the balance sheet of votes—which side will be most productive in November. We mustn't forget that most of these extravagances of which we have been complaining have been asked for by someone, a Board of Commerce, a Manufacturers' Association, a real estate promoter, an uplift organization, or someone else, of whom, perhaps, we ourselves have formed a part. We mustn't forget that if we are to get somewhere with the politician, we must talk the language of the Science he understands; we must deal not with argument or with logic, but with the currency which obtains in the world in which he lives and moves, namely, with *VOTES*.

What is the answer? What can you do about it?

Well, if you don't do something about it, no one else will. The situation won't change itself. Generally speaking, elective officers will become economy-minded just as soon as they realize that those demanding economy will cast more votes than those demanding extravagances. See to it that no organization of which you are a member asks for legislation

Mr. Utley is president of the National Founders Association and past-president of the American Foundrymen's Association which convened last week in Detroit and under whose auspices various groups representing the entire foundry industry assembled. In addition to being a leader in the industry with which he is identified, Mr. Utley has been active in the Employers' Association of Detroit, the Board of Commerce, and in 1930 was president of the Michigan Manufacturers Association.

The accompanying excerpts from his address before the Foundry Equipment Manufacturers Association offer food for thought to every tax payer.

done this I guarantee you the results will be the shock of your lives.

In this spending orgy, the Governments of all civilized nations have seemingly forgotten the fundamental principle that "Government derives its just powers from the consent of the governed"; they have forgotten that Governments are created not because of Divine Right, but in order that they may afford the protection by which a citizen may the more securely and more happily pursue his existence. On the contrary, they have quite largely substituted the principle that Government is an agency for the taking-away from those who have, and redistributing it to those who have not, to the inevitable end that in time all will be reduced to the latter state.

During the last two years our income,

increasing appropriations. Don't preach economy for everything except your own pet extravagance. Remember that the spender is usually near the throne, while the taxpayer is far away attending to his business. Don't think that your representative can read your mind. Get in touch with him and make your position perfectly clear to him. Check up on your representatives, local and National. Are they voting for economy? Are they going to represent you again after the next election? If you haven't time to do it yourself, delegate some man in your organization to keep you informed on the political situation, doing this as a part of his regular job, not as overtime work. He may increase your net profits more than any one else in your organization.

The historian of the future may quite probably say that this depression cleared men's vision, brought back sanity into government, and that as a result of the losses, the turmoil, the heartaches through which you and I are now going, government of the people, by the people, and for the people did not perish from the earth.

Orders for Hollow Cinder Block

Roanoke, Va.—Orders recently booked by the Stone-Tile & Supply Company, Inc., of this city, indicate an active demand for hollow cinder block. The company's plant is working full time and is now furnishing hollow cinder block for the following jobs: School building at Danville, Va., Hymes Bros., Chatham, Va., contractors; Boonsboro school building near Lynchburg, Va., J. W. Stout, Inc., Sanford, N. C., contractor; Southwestern State Hospital building, Marion, Va., Eubank & Caldwell, Roanoke, architects; high school building, Tazewell, Va., Raymond V. Long, architect, Richmond, Va., and J. Clarence Hildreth, general contractor; Spanish type residence at Glenvar, Va., for W. H. Griffith.

New Insulation Product

Rockdale, Tenn.—Following its policy in the development of new uses for waste materials, the Tennessee Products Corporation, Nashville, is now marketing an unusual insulating material under the trade name of Tensulate, which it manufactures at its Rockdale plant. Tensulate is made from a mineral substance, fused and blown at high temperature. In its original form, it is a fibre of small size, similar to cotton or wool fibre. The conversion process produces a material in which it is said 80 to 90 per cent dead air cell space is obtained. The product is described as fireproof, rodent and vermin-proof.

Sales Tax Survey

The results of a sales tax survey, recently completed by the National Industrial Conference Board, are embodied in a report which is soon to be published. Some of the findings already have been released, as specially pertinent to the impending struggle over the selective sales taxes embodied in the bill of the House of Representatives.

A selective sales tax is not new in the history of the country, says the report. In fact it dates back to colonial times, and except for a short period in Civil War days, when net income taxes were levied, the chief sources of Federal revenue have been customs duties and excise taxes, including taxes on the sale of selected commodities and services. During the war periods especially, the government always has leaned heavily on selective sales taxes. Beginning with 1916 the Federal Government began to increase the rates on existing excise taxes and to add new ones at a rapid rate until 1921, when some of the more objectionable ones were dropped. Since then, numerous commodities have been dropped until at present nothing remains subject to a Federal sales tax except tobacco and a few relatively unimportant services.

Since 1921, the states, encouraged by Federal success with this form of taxation, have begun to enter the field and to adopt selective sales taxes. This raises the question whether, if both the Federal Government and the states use this source of revenue, any plan of co-ordination can be worked out between them.

Experience has proved that there are certain administrative advantages in the use of the same tax source by both the Federal Government and the states. In many respects Federal and State laws can be made uniform, which would give the states the advantage of the interpretation placed upon the laws by the Federal Government and the wider experience of the latter in the field of administration. It would also facilitate the taxpayer's task of preparing his income statement. In the absence of co-ordination, embarrassing situations arise when either the Federal Government or one of the states enters a revenue field already being utilized by the other. In Mississippi, for example, there is at present a special 10 per cent admission tax and also a general sales tax of 1 per cent applicable to admissions. Obvi-

ously, an additional Federal admission tax would prove embarrassing to the Mississippi legislature. In those states in which a tobacco tax with substantial rates has been adopted it becomes a question whether the revenue possibilities of this particular product will not be overworked.

Selective sales taxes in the United States have not usually been levied on necessities, such as food and clothing, but on luxuries and non-essentials the purchase of which indicates taxpaying ability. It is in the choice of commodities or services to be taxed as luxuries or non-essentials that the framers of the new Federal tax law will meet their greatest problem. As an evidence of the difficulty, the Conference Board calls attention to the testimony of a witness before the House Ways and Means Committee who argued that the talking picture theatre is an institution of learning, because farmers and other men who cannot afford the time or money for travel may develop their minds and broaden their outlook on life by seeing pictures of travel, sports, scientific processes and current events. Similar arguments were made in behalf of the radio.

In the selection of commodities for taxation, states the Conference Board, the present ideal seems to be a commodity non-essential in character, widely used, and inelastic in demand, on which taxes may be easy to collect. Tobacco comes the nearest to having all these qualities and for that reason has been taxed by the Federal Government and by 13 states. If, however, selective sales taxes are ever to become important sources of revenue, commodities will have to be included that do not possess all these characteristics. In time of emergency, the tendency probably will be to sacrifice the non-essential or luxury feature for commodities that bring large amounts of revenue into the treasury.

\$500,000 University Building

Washington, D. C.—General contract to erect a new \$500,000 recitation hall for the College of Arts and Science has been awarded by Georgetown University to Charles H. Tompkins Co., Washington. The building will be 90 by 190 feet, 5 stories, of stone, brick and masonry. It will contain 79 rooms. Emile G. Perrot, Philadelphia, Pa., is the architect.

Our Changing Freight Traffic

Will the Motor Truck Supplant the Locomotive?

By

R. C. FULBRIGHT

Chairman, Legislative Committee,
The National Industrial Traffic League,
Washington

SO numerous are commercial motor trucks on many of our national highways that travelers frequently wonder if any freight business is left for the railroads. Motor truck traffic contiguous to our principal cities is likely to create exaggerated notions as to the relative importance of highway freight transport. In certain lines motor trucks have become an important factor but a contrast with the total volume of railroad transportation demonstrates that the railroads are still our principal avenues of commerce.

The Chief Economist for the Bureau of Railway Economics has estimated that the maximum possible commercial interurban ton mileage that can be handled in the course of a year by motor trucks is 29,000,000,000 ton-miles. The aggregate rail revenue ton mileage of the Class 1 carriers in 1930 was 338,449,000,000 ton-miles. This estimate assumes that one half of all commercial trucks in cities as well as rural communities are engaged constantly in interurban service moving at capacity load on all loaded trips and loaded three-fourths of the time. Under such conditions the economist estimates that the trucks are able to handle slightly over 7 per cent of the volume of freight transportation handled by the railroads in the depressed year of 1930.

The total interurban commercial freight traffic in the United States in 1929 aggregated 650,000,000,000 ton-miles, of which 75.8 per cent was carried on railways, 16.3 per cent on inland waterways and the Great Lakes, 4.9 per cent by pipe lines, and 2.5 per cent by motor trucks operating in interurban service, the remaining fraction of one per cent being assignable to interurban electric railways and to airplanes.

Majority of Autos and Trucks

Privately Owned

There are more than 26,000,000 motor vehicles in the United States, of

which 23,000,000 or 86 per cent are cars, and about 3,480,000 or 13.1 per cent are trucks. Competent authorities estimate that 50 to 60 per cent of the private automobiles on the highways are in use for business purposes. About 3,500,000 trucks are in the hands of 2,500,000 owners, of whom 300,000 own about 1,300,000 trucks and 2,200,000 own only one truck. It is estimated that 82 per cent of all trucks are privately owned and operated by farmers, merchants, manufacturers and shippers; 11 per cent belong to contractors, and 7 per cent are common carriers.

Decline in Less-Than-Carload Freight

It should not be concluded, however, that motor highway transportation has not reached important proportions in many lines. Some of these lines have become acutely competitive with the railroads where formerly the latter had a monopoly of transportation. The most important field in which the railroads have felt this competition is in the distribution of less-than-carload freight from jobbing and manufacturing centers. The greater flexibility and speed of service that may be rendered by the motor truck, particularly for short distances, has brought about a radical reduction in less-than-carload merchandise railroad traffic.

It is true that such freight pays higher rates, but it is true also that it requires relatively a greater number of cars, the average loading being less than

3 tons per car. This class of freight service also requires much greater expense on the part of the railroads, and there are some students of transportation who believe the railroads would be better off if they did not undertake to handle less-than-carload shipments for short distances, except in the case of package cars which have one origin and one destination.

Cotton Moved by Truck

The development of cotton movement by highways has probably been relatively as great as the general less-than-carload movement. Cotton lends itself peculiarly well to truck transportation. This movement has developed largely within the past three years and has found its greatest development in the Southwest where the bulk of the cotton moves to the Gulf ports. A study made by Texas railroads disclosed that from August 1, 1931, to December 11, 1931, of 2,256,436 bales of cotton received at Houston, 1,194,960 or 53 per cent came in by motor truck.

The development of this traffic compelled the railroads to make substantial reductions in their rates on cotton. However, it is of interest to note that the volume of cotton tonnage is less than 2 per cent of the total volume of all traffic handled by the Texas railroads. The Texas & New Orleans Railroad is the most important carrier of cotton in Texas and for 1930 cotton comprised 1.7 per cent of its originated tonnage and paid 3.9 per cent of its revenue. The largest cotton-carrying railroad system of the South is the Illinois Central. In 1930, this road (including the Central of Georgia and the Yazoo & Mississippi Valley railways) originated 423,906 tons of cotton, but this comprised only 1.1 per cent of the total tonnage originating on these lines, and it paid 2.5 per cent of the revenues. The total cotton traffic of all the Southern and Southwestern railroads is less than one per cent of their total tonnage and pays approxi-

mately 2½ per cent of their net freight revenue.

Perhaps the most complete survey by any railroad to determine the amount of interurban traffic being handled by motor trucks was made by the Atlantic Coast Line, for 1930. This included an estimate from every town on the railroad, so far as the agents were able to determine any movement by motor truck, and disclosed that 1,335,000 tons of freight had been handled by motor trucks to or from the points on the Coast Line in the six states served. Of the total truck movement, 11.9 per cent moved by common carrier trucks, 59 per cent by contract trucks and 29 per cent by private trucks. Of the total freight moved, 34.9 per cent consisted of lumber, logs and cross-ties and 29.3 per cent was general merchandise or less-than-carload freight. The next most important commodity was fertilizer which constituted 7.1 per cent of the total.

A part of the truck movement was competitive not only with the Atlantic Coast Line but with other railroads in that territory. The total tons originated by the Atlantic Coast Line proper for 1930 were 12,035,393, upon which it had a total revenue of \$47,245,293. It is estimated that truck traffic in the territory disclosed a movement of 1,335,522 tons upon which the revenue to the Coast Line as estimated would have been \$4,985,616. It would appear from the estimate that, considering all of the truck traffic as diverted from the Atlantic Coast Line alone, it would have amounted to ten per cent in volume and 9.54 per cent in revenue of what the Coast Line would have received had there been no such competition.

In this connection, it is most significant that the estimated general merchandise tonnage to the trucks was slightly greater than the less-than-carload originated tonnage of the Atlantic Coast Line proper. However, it was only a little more than half of the less-than-carload tonnage carried. Yet it is here that the gross revenue loss appears greatest. The total less-than-carload revenue of the Coast Line in 1930 was slightly less than \$6,000,000, but had it handled all the less-than-carload freight which went to trucks in this territory its revenues would have been increased by more than \$2,000,000. This takes no account of the extraordinary expense incident to transportation of this class of freight.

Automobile Industry Creates Business for Railroads

Development of highway transportation has not been an unmixed evil to the railroads. Few stop to consider the enormous development of railroad traffic

which has directly and indirectly resulted from a development of the motor vehicle. Not only has the automobile industry become the second largest in the United States, but along with it has come a large and varied development of other enterprises, chief among these being the petroleum industry which has depended for its rise largely on demands of the automobile users. The development of modern highways has been almost entirely a result of demands on the part of motorists for better roadway facilities. Corresponding increase in the production of various lines of manufacture such as steel pipe, road and bridge materials and accessories of various types has accompanied this enterprise.

This development can be illustrated by some of the classes of freight transported as reflected by statistics of commodity freight handled. For more than 20 years, the Interstate Commerce Commission has required railroads to report from year to year the tonnage of various kinds of commodities handled. From 1910 to 1914 the roads reported under one group the tonnage of wagons, carriages and tools transported in carloads. At that time there was not sufficient movement of motor vehicles to warrant the Commission in fixing a separate classification and such vehicles were included with wagons, carriages and tools. During the five year period 1910-1914 the Class 1 railroads reported an average movement of wagons, carriages, tools and motor vehicles amounting to 3,311,348 tons a year. During the five-year period, 1925-1929, the movement of wagons and carriages had practically disappeared, but during this later period the railways reported an average annual movement of automobiles, motor trucks and trailers of 21,638,806 tons. During the five-year period, 1910-1914, the movement of petroleum and other oils averaged 18,797,159 tons a year, while during the period 1925-1929 the movement of refined petroleum products averaged 108,328,493 tons each year and the movement of crude petroleum 19,475,842 tons a year.

The freight revenue from petroleum and its products and from motor vehicles has been running in excess of a half-billion dollars a year. In 1928, these commodities furnished the Class 1 railroads 11.53 per cent of their total freight revenue; in 1929, they furnished 11.96 per cent; and in 1930 they furnished 9.89 per cent.

In 1930, the Class 1 railways originated 3,041,847 carloads of petroleum and its products, automobile trucks, tractors and tires. This was 600,000 cars in excess of the total movement of products of forests, and paid approximately double the revenue, and it was more than two and a half times the ton-

nage of all less-than-carload freight and more than three times the tonnage of all animals and products of animals. The total amount of grain, hay, alfalfa, straw, cotton, cotton linters and white potatoes originated in 1930 was 1,996,122 cars, or more than 1,000,000 cars less than were originated by the petroleum and automotive industries.

Railroads Backbone of Transportation

The distressed economic condition prevailing for more than two years has forced much freight traffic to motor lines which under normal conditions would be handled by the railroads. Motor-truck operations have in numerous cases been conducted without regard to profit, whereas under normal times more consideration would be given to obtaining reasonable compensation. There is no doubt that the motor truck will find a certain field of interurban transportation where it can permanently serve the public with efficiency and economy, nor is there any doubt that the great bulk of interurban transportation will continue to move on the railroads. In so far as these two forms of transportation are actually competitive, either greater freedom should be given to the railroads to meet the competition, or means should be found to protect the railroads against irresponsible competition.

\$390,000 Federal Building

Monroe, La.—Plans have been completed for the new United States post office and courthouse building here and are now in the hands of Jas. A. Wetmore, Acting Supervising Architect of the Treasury Department, Washington, for approval. Bids for the structure are expected to be invited soon. The building will be 3 stories and basement, 147 by 77 feet, of Indiana limestone exterior, to cost about \$390,000. Freight and passenger elevators will be installed. J. W. Smith & Associates, Monroe, are the architects.

Better Business Outlook

The business outlook in Ashland, Ky., is reported as better than it has been for some time. The Ashland Independent, in commenting on the situation, says that a little more optimism, with less talk about the depression, will help a lot. Activity on the overhead pass construction job is giving employment to about 200 men, and more will be employed later on, says the Independent. The new post office building will be started on right away, all of which is a decided help in many directions.

Washington Memorial

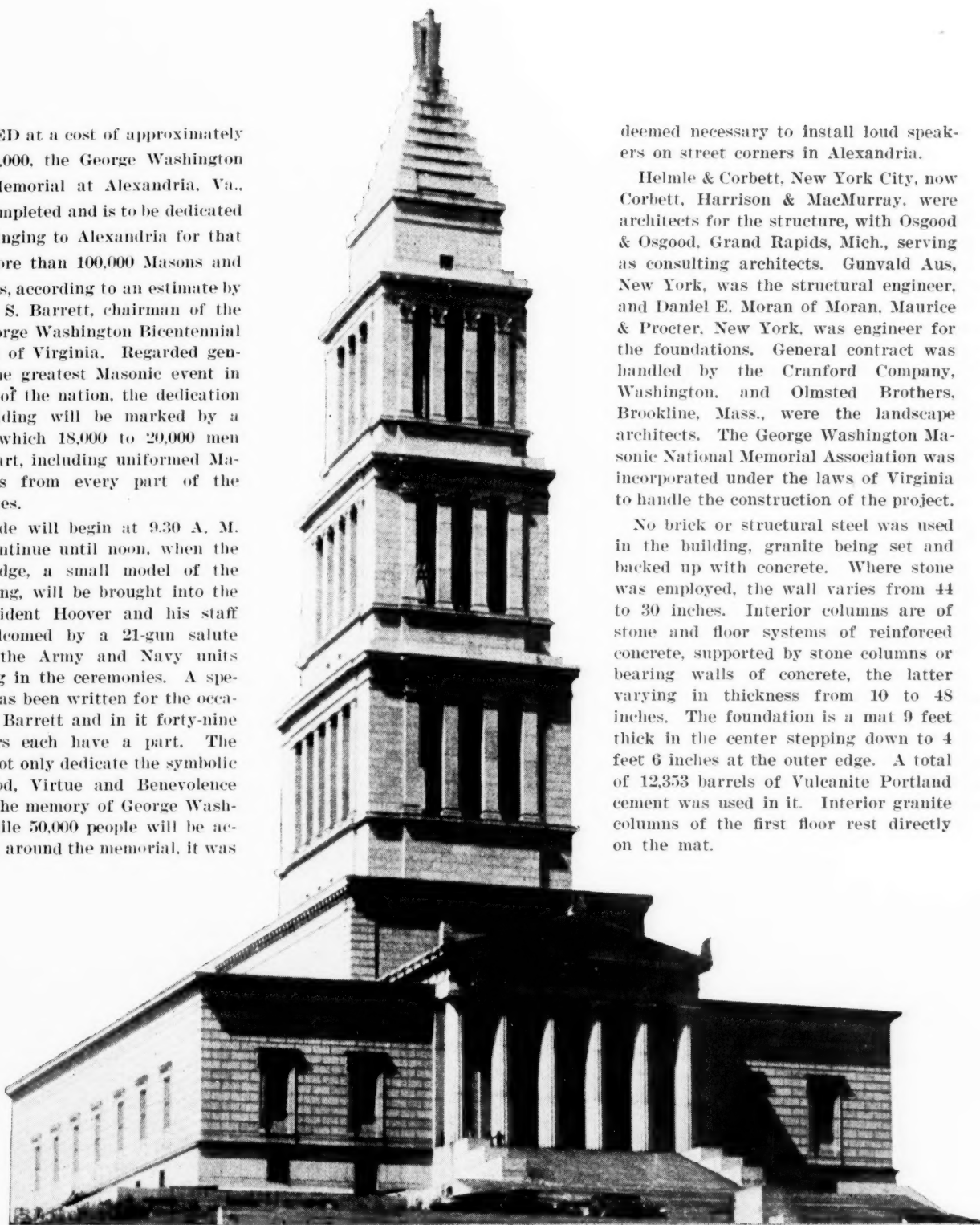
ERECTED at a cost of approximately \$4,000,000, the George Washington National Memorial at Alexandria, Va., has been completed and is to be dedicated May 12, bringing to Alexandria for that occasion more than 100,000 Masons and their friends, according to an estimate by Dr. Robert S. Barrett, chairman of the Masonic George Washington Bicentennial Commission of Virginia. Regarded generally as the greatest Masonic event in the history of the nation, the dedication of the building will be marked by a parade in which 18,000 to 20,000 men will take part, including uniformed Masonic bodies from every part of the United States.

The parade will begin at 9.30 A. M. and will continue until noon, when the symbolic lodge, a small model of the great building, will be brought into the open. President Hoover and his staff will be welcomed by a 21-gun salute from both the Army and Navy units participating in the ceremonies. A special ritual has been written for the occasion by Dr. Barrett and in it forty-nine grandmasters each have a part. The ritual will not only dedicate the symbolic lodge to God, Virtue and Benevolence but also to the memory of George Washington. While 50,000 people will be accommodated around the memorial, it was

deemed necessary to install loud speakers on street corners in Alexandria.

Helmle & Corbett, New York City, now Corbett, Harrison & MacMurray, were architects for the structure, with Osgood & Osgood, Grand Rapids, Mich., serving as consulting architects. Gunvald Aus, New York, was the structural engineer, and Daniel E. Moran of Moran, Maurice & Procter, New York, was engineer for the foundations. General contract was handled by the Cranford Company, Washington, and Olmsted Brothers, Brookline, Mass., were the landscape architects. The George Washington Masonic National Memorial Association was incorporated under the laws of Virginia to handle the construction of the project.

No brick or structural steel was used in the building, granite being set and backed up with concrete. Where stone was employed, the wall varies from 44 to 30 inches. Interior columns are of stone and floor systems of reinforced concrete, supported by stone columns or bearing walls of concrete, the latter varying in thickness from 10 to 48 inches. The foundation is a mat 9 feet thick in the center stepping down to 4 feet 6 inches at the outer edge. A total of 12,353 barrels of Vulcanite Portland cement was used in it. Interior granite columns of the first floor rest directly on the mat.



\$4,000,000 Masonic Structure Dedicated This Week at Alexandria, Va.

IRON, STEEL AND METAL MARKET

Steel Situation Not Yet Clarified

Pittsburgh, May 9—[Special.]—Conditions in the steel trade seem to be stagnating upwards, ingot production last week being estimated at 22 per cent of capacity against 21 per cent for three weeks preceding. Among the different districts, gains and losses have occurred. A week ago steel makers felt that after three or four weeks of practically unchanged volume of demand a change was due one way or the other. Not enough has occurred to date to prove that a definite trend is being established but there are indications in that direction. However, there is by no means a cheerful feeling among buyers and it may be difficult for demand to run counter to the regular experience in good years, the rule being for the tapering off to reach a low point in July.

Stabilized steel prices are well held, and apparently without any difficulty, the movement being reinforced by the very poor financial statements made by steel companies for the March quarter. Generally speaking, the small lot buying now prevalent does not furnish much test of prices, but there is the very important case of plain shapes for fabricated structural jobs, shaded so frequently and deeply for a couple of years, and in that direction there has been a great improvement, this being perhaps the crucial test of the whole price stabilization movement which was set on foot about three months ago.

Reports in circulation for several weeks that a second wage reduction in the steel industry was probable were verified last Friday afternoon when the Steel Corporation announced a straight wage and salary reduction of approximately 15 per cent, effective Monday, May 16. There was no wage reduction until that of 10 per cent effective on the first of last October. In both cases by common consent the independents left it to the Steel Corporation to set the pace. The two changes reduce the standard hourly rate from 44 cents to 34 cents, leaving the rate higher than at any time prior to April 15, 1918, and far above pre-war rates in general. February 1, 1913, there was an advance from 16 cents to 19½ cents, this rate holding until 1916, when a string of advances began. Men were then working 12 hours a day as a rule while now they get two or three days employment a week of 8 or 10 hours.

It is made very emphatic that no portion of the saving in cost will be re-

flected in selling prices, the object being to conserve cash resources, which have been diminishing.

The automobile industry, outside of Ford, is running no better than 30 days ago, if as well. Ford production of engines, which has been the bottle neck, has increased but still not much steel is being consumed. Ford buying has been quite limited.

Railroad demand is still very light indeed, though better than two or three months ago, when there was practically none. Fabricated structural steel awards have averaged light in the last four weeks but showed a distinct improvement last week. The farm implement industry is running steadily at rather a low rate.

Advance in Price of Tin

New York, May 9—[Special.]—Tin affords the spectacular feature among the non-ferrous metals. Despite declines in stocks and commodities, tin prices have been soaring because of news that the international tin committee, representing the five principal tin-producing nations, has decided to suspend operations completely during June and July and to cut production thereafter to 40 per cent of the present rate. By the middle of the week the price of tin had reached 22½ cents per pound as against 18½c at the recent low point.

Silver dipped to 27 cents per ounce on Tuesday, a new low for the year, but started recovering somewhat later. First hand, or producer, copper sold at a new low for all time when it changed hands in a limited way at 5½c per pound, delivered. Zinc has been sagging gradually to a new all-time low of 2.50c per pound, East St. Louis, while the prime western grade of zinc concentrates has dipped to \$16 per ton in the tri-State district, also a new low.

Lead is the only one of the major metals, besides tin, which has not yielded to declining influences generally. Lead prices are unchanged at 3c per pound, New York, and 2.90c, East St. Louis. Among the minor metals antimony and quicksilver have yielded in price.

The operating rate in the steel industry is somewhat higher at 24 per cent of capacity, though declines are in prospect, particularly in the Birmingham, Chicago and Youngstown districts. The automobile industry will probably not reach its peak of production until June, or possibly July or August, which means that purchasing of raw materials in that line should be increasing over the next sev-

eral weeks. The composite price of commodities generally has dipped to a new low for the current depression.

The matter of a duty on copper is being used as a football. First the Senate Finance Committee turned down such a tariff on imports; on Wednesday of last week, however, it reversed its stand and voted for a 4-cent duty. This action had no effect on the copper market, however, the whole matter still being in too nebulous a state to allow definite conclusions to be drawn. The special price export price has been unchanged at 6c per pound, c. i. f. European ports, while the official price is the same at 6¼c. Business has got off to a poor start this month as regards the volume of sales.

Lead business has been the most consistently good among the metals. Leading producers continue to sell completely their production and there has been considerable interest in far distant shipment, though June is as far ahead as producers care to sell. Zinc has declined \$5 per ton in the present declining movement, but there is little demand.

American tin consumers have watched prices soar without buying. They are perhaps skeptical of the rapid advance in prices. At the same time producers are confident that they have the statistical situation well in hand.

In the Birmingham District

Birmingham, Ala., May 9—Steel mill operations increased a little here the past week by the resumption of two open hearth furnaces at the mills of the Gulf States Steel Company. The Tennessee Coal, Iron & Railroad Company still has nine open hearths producing ingots. Five blast furnaces are making iron, three on foundry and two on basic. All but one of the several Portland cement mills are in operation on partial schedules.

The Birmingham district looks forward to improved coke demand, a little better requirement for pig iron, increased demand for steel, increasing orders for cast iron pressure pipe, cement, clay products, steel and iron culverts, tanks, containers and welded products.

Anticipating some business from the agricultural sections there is hope that a considerable proportion of accumulated wire and wire products will be moved out during the next 60 to 90 days. There is also hope that some of the new steel sheet will be employed in buildings on the farm.

HIGHWAYS AND MOTOR TRANSPORT

FEDERAL AID BIG FACTOR IN QUALITY ROADS

High Standards in Roadbuilding Result From Government's Insistence on High-Type Construction

Although the national government contributes only a small part of the cost of building important state highways, Federal Aid has been of inestimable value because of the insistence on high standards in roadbuilding, saving millions of dollars to motorists through better spending of contributions to road funds. This is the declaration of Frederick E. Everett, president of the American Association of State Highway Officials, Washington, who urges that Federal Aid be extended to states on the present scale for some time to come. Mr. Everett said:

"When Federal Aid began to function in 1917 very few states had well-equipped highway departments, many states had inefficient highway departments and administrations, and some states had no highway departments at all. In order to obtain Federal funds offered, many states had to make drastic changes in their road laws, in administration and engineering personnel.

"To illustrate the vast changes, note that in 1917 only five states had laboratories for testing local roadbuilding materials. Today nearly every state has an efficient laboratory.

"The benefits of Federal Aid extend beyond the roads built by the state in cooperation with the national government. Through insistence on high quality construction, an example has been set which nearly every state has followed in building roads not on the Federal Aid system. Before the introduction of Federal Aid there was a decided tendency to obtain mileage at the sacrifice of quality. The states have adopted the Federal precept that roads should be designed and built adequate for the traffic and at the same time be marked with the lowest possible maintenance cost.

"Federal road contributions in 1930 amounted to only eight per cent of the road income of all the states. It is clear that the benefits brought about by Federal Aid extend far beyond this small contribution.

"Thomas H. MacDonald, chief of the U. S. Bureau of Public Roads, summarizes the values of Federal Aid in these words:

"Federal road aid, by holding the expenditure of road users' taxes imposed by the states to a co-ordinated system of highways, not only between the states, but for the nation as a whole, has had a profound effect in providing quickly a continuous system of roads which is earning a very large annual income for

the public; and in holding construction to the standards that are necessary for economical maintenance. Federal road aid has been a large factor in bringing constructive economy into our expenditures for improved highways."

\$321,000 Contract on State Building

Austin, Tex.—The State Highway Commission and State Board of Control awarded general contract to J. E. Morgan & Sons, San Antonio, at \$321,787, for the construction of an 8-story highway building here to house offices of the highway department and other divisions of the state. The building will be 127

by 100 feet, of brick, reinforced concrete and stone. Adams & Adams, San Antonio, and Lang & Witchell, Dallas, are the architects; W. E. Simpson Co., structural engineer, and L. D. Royer, mechanical engineer, both of San Antonio.

Low bidders on various other phases of construction and equipment, with amount of bids, are:

Tunnel—McKenzie Construction Co., San Antonio, \$4500
Wiring tunnel—Wright Bros. Electric Co., San Antonio, \$3692
Plumbing—Jud & Ormond, San Antonio, \$10,899
Steam pipe for tunnel—Fox & Schmidt, Austin, \$6100
Heating—A. H. Shafer, San Antonio, \$19,999
Electrical work—Edward Tengg, San Antonio
Elevators—San Antonio branch of Otis Elevator Co.

Bridge Superstructure Built in Fast Time

Superstructure of the new bridge recently completed over Broad River between Gaffney and Blacksburg, S. C., was fabricated and erected and accepted within 77 working days, the time allowed under the contract being 100 working days. Dewey Brothers, Goldsboro, N. C., handled the contract. R. H. H. Blackwell, Kingsport, Tenn., built the concrete piers to accommodate the steel spans, and the four concrete approach spans on each end. The bridge was constructed for the South Carolina State Highway Department on Federal Highway No. 29, which is on the route between Charlotte, N. C., and Spartanburg, S. C.

Total length of the bridge is 1036 feet. There are four 150-foot 6-inch skew spans and four concrete approach spans, totaling 424 feet.

Steel spans were fabricated from standard and special rolled shapes furnished by the Phoenix Iron Company, Phoenixville, Pa., and the Carnegie Steel Company, Pittsburgh; the floor system by the Pittsburgh-Des Moines Steel Company, Pittsburgh; steel bars for lattice work by the Knoxville Iron Company, Knoxville, Tenn.; steel castings by the Pulaski Foundry & Machinery Corporation, Pulaski, Va., and shop coat and field paint by Geo. D. Wetherill & Company, Chester, Pa.

In erection of the steel superstructure, Dewey Brothers used one 5-ton bridge traveler for placing the steel on the falsework, and one 5-ton guy derrick for handling steel from roadway to bridge approach. Portable air compressors supplied air for two riveting crews.



1000-Foot Bridge Over the Broad River in South Carolina.

NEW AND IMPROVED EQUIPMENT

Type NVM Cutting and Welding Torch

Tips, Inc., Baltimore, Md., international distributors of standardized cutting and welding tips, apparatus and accessories, announce Milburn Type NVM Cutting and Welding Torch No. 960 as an addition to their line. The new torch, of improved design, will cut or weld any



Welding and Cutting Torch of Improved Design

thickness of metal within range of the process, it is declared, welding by mere change of tips. It is of strong construction, with base and valves of high grade forged bronze, and tubes of special weight, triangularly arranged to give greatest transverse strength. High pressure lever is operated with an improved lever under the torch, and all replacements may be made without disassembling the torch. The 90 degree head of Type NVM Torch is designed to take standard Type NV conical seated tips which have the same standards as those used in Airco Davis-Bourdonville Cutting Torches styles 8000, 3000A, 3000B, etc.

Safetop Fire Hydrant

The Kentucky Valve Manufacturing Company, Elmira, N. Y., has developed the Kennedy Safetop Fire Hydrant, described as of special interest to water-works superintendents, fire department chiefs and municipal officials, because of the short time necessary to put it back into service after breakage by collision from trucks or automobiles, and the slight cost for repairs. Water pressure need not be shut off while making replacements. An outstanding feature is the Safety Breakable Section located a few inches above the ground line. Both stand-pipe and stem of hydrant are in two parts which abut each other at this section. Other features are a compression type inlet valve, simple, straight-line operating mechanism and automatic and positive double drain valve. In case of breakage by collision, no excavation is necessary, the damage being done only to the standpipe breaking ring and stem coupling which break cleanly at their respective grooves.

Part Circle Multi-Plate Pipe

To meet the need for a strong drainage structure to give adequate waterway areas without the headroom necessary for full round pipe, the Armco Culvert Mfrs. Association, Middletown, Ohio, recently developed part circle Multi-Plate pipe which is said to provide greater size, strength and durability than ever before offered in this size structure. Design of construction calls for 5 or 3 gauge flat base plates each 30 inches wide with an apron plate at each end of the pipe, the ends of the base plate being turned up 4½ inches so that the arch can be bolted to the base. Sides of base plates are turned down with a 4½-inch lip to give stiffness and strength to prevent buckling under ordinary shallow fills. All plates, both flat and corrugated, are of Armco Ingot Iron. Part circle Multi-Plate is manufactured with 3, 4, and 5 arch plates which form spans ranging from 90 to 220 inches and in lengths of 5 feet or multiples of that

number. Arch plates are available in standard gauges of 3, 5, or 7.

Quick Acting Clamp

The Climax Equipment Company, Chicago, announces a quick acting square "C" clamp, known as the "Flash." An advantage is that it may be used as a drill press vise as well as for clamping purposes. Simple to operate and heavily constructed to withstand strenuous work, the entire mechanism is controlled by a handle or cam. To bring the nickel cast iron jaws in contact with the material, the upper sliding jaw is released from the upright member by pressing the handle in a counter clockwise direction. This movement binds the upper jaw to the upright. As the movement is continued, an auxiliary jaw is forced out of the upper jaw to take up play and hold the material firmly in place. Regular sizes of the clamp have 6-inch, 12-inch and 18-inch openings.

Austin Bituminous Distributor

Austin-Western Road Machinery Co., Chicago, announces a newly developed line of Austin Bituminous Distributors, with a number of practical operating advantages and in unit capacities of 600, 800, 1000, 1200 and 1500 gallons. The machine is designed to handle all grades of oil, tar and asphalt and may be mounted on any standard truck chassis. It may also be mounted on trailers and semi-trailers. Any desired uniform quantity of bituminous per square yard may be applied over any specified width. Spray bars, or manifolds, of welded sheet metal construction are tapered to correspond with the reduction in volume and to provide

more perfect drainage when removed. If preferred, a full circulating boot type manifold with nozzle shut-offs working in gang formation may be provided. In the Austin design, nozzles and valve controls are inside manifold pipe where heat insures complete and immediate drainage. Tanks are elliptical in shape, electrically welded, with an adequate expansion zone above. Facilities for heating include two large double U-tube flues with generating, non-carbonizing type burners that operate with kerosene or light furnace oils. Pump is of the internal gear type with but two moving parts, having a capacity of 350 gallons per minute at 350 rpm. It is driven by a heavy duty 4-cylinder motor easily accessible.



Side View of 1000-Gallon Bituminous Distributor, Mounted on Motor Truck

CONSTRUCTION DEPARTMENT

and

NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

Airports, Airplane Plants, Etc.

Arkansas—Dept. of Commerce, Aeronautics Branch, Airways Div., Lighthouse Service, W. S. Erwin, Ch., Div. of Purchase and Sales, Washington, soon begin constructing 17 airway beacons on the American Airways Line between Texarkana, Little Rock and Memphis, sites having been secured; beacons 24-in. diam., 1,000,000 candle power, rotating 6 times per minute; red course lights will be installed with the beacons; 4 beacons to be located on intermediate landing fields which are expected to be boundary lighted.

Fla., Miami—Florida State Aviation Comsn. and State Road Dept., Tallahassee, reported, plan 2-yr. program, constructing about 22 emergency landing fields, completing airway links between principal Florida cities and connecting with federal lighted airways to north and west; expend \$40,000. F. W. Berry, Jr., Div. Engr., Plans and Surveys, Tallahassee, advises relative to program of State Road Dept. and construction emergency landing fields. House Bill No. 268, passed by Legislature of Florida, 1931, authorized expenditure of \$20,000 per year for constructing emergency landing fields; land to be furnished by counties and deeded to State; work of State Road Dept. so far has been survey and adoption of 4 principal air routes in State; Dept. intends to locate places on these routes for landing fields, after counties have secured necessary right of way to condition them with State Road Dept.'s forces; B. M. Duncan, State Highway Engr., Tallahassee.

La., Barksdale Field—George J. Robinson Co., Pine Bluff, Ark., reported, has contract for drainage work at field. 5-5

La., New Orleans—Comms. Orleans Levee Dist., 606 Common St., receives bids May 27 for furnishing labor, materials and equipment for constructing and placing 3000 ft. of fascine mattresses ballasted with rock as subaqueous protection work at outer end of Shushan Airport, Lake Pontchartrain; plans, etc., at office of Bd. of Levee Comms. on deposit of \$5; John Klorer, Ch. Engr., Orleans Levee Bd. 4-21

N. C., Charlotte—Wm. Swann, operator Charlotte Airport, reported, plans airport on 170 acres land about 6 miles north of city.

Okla., Blackwell—City, L. N. Conser, Mayor, voted to build hangar, replace burned structure; will probably build with city forces. 4-28

Okla., Marshall—Straughan Aircraft Corp., capital \$25,000, incorporated; Frank Straughan, Kenneth O. Herwig, Marshall; Burrell Tibbs, Oklahoma City.

S. C., Beaufort—Det. of Commerce, Aeronautics Branch, Airways Division, Lighthouse Service, Washington, equip airport at Beaufort, on Lady's Island with 2,000,000 candle power beacon light and boundary lights for emergency night landing on Richmond-Jacksonville air line; town and county of Beaufort are conditioning field; Philip Jackson, Airway Inspector, in charge of work.

Tex., Dallas—Dept. of Commerce, Aeronautics Branch, Airways Div. Purchase and Sales, Washington, changed date of opening bids from April 25 to May 19 for installing lighting facilities on Dallas-Little Rock section of Dallas-Louisville Airway; Pro. No. 24236. 3-31

Tex., Fort Worth—American Airways, operating subsidiary of Aviation Corp., 122 E.

42nd St., N. Y., will remove headquarters and shops from Dallas to Fort Worth; erect hangars, headquarters building, etc., at municipal airport; building, 2 stories; 235x120 ft.; cost \$150,000; C. R. Smith, V.-P. and Gen. Mgr., Southern Div.

Bridges, Culverts and Viaducts

Proposed Construction

Md., Baltimore—City, George Cobb, Highways Engr., City Hall, opens bids May 18 for bridge over Georges Creek and Stony Run near Prettyboy Dam site, \$12,000 to \$16,000; plans \$5. 4-28

Missouri—State Highway Comsn. has low bids for 2 bridges. See Roads, Streets and Paving.

Okla., Tulsa—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, rescinded contract for widening West Tulsa bridge over Arkansas River and ordered \$86,000 deposited by city returned. (See Roads, Streets and Paving, 3-17).

Tennessee—See Roads, Streets and Paving.

Texas—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, has plans with U. S. Engr. Office, Galveston, for approval for \$100,000 bridge, Jefferson County, over Intracoastal Canal; plans call for clearance of 100 ft. fenders, space to be 12 ft. above mean low tide when closed; plans by G. G. Wickline, State Bridge Engr., Austin.

Texas—State Highway Comsn. plans 2 bridges. See Roads, Streets and Paving.

Tex.—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, may build bridge over Canadian River, Highway 5, Potter County, to replace steel and wood structure.

Virginia—State Dept. of Highways receives bids for 3 bridges. See Roads, Streets and Paving.

Contracts Awarded

Oklahoma—State Highway Comsn. let contracts for 5 bridges. See Roads, Streets and Paving.

Tex., Richmond—Gulf, Colorado & Santa Fe Ry. Co., K. B. Duncan, Ch. Engr., Galveston, let contract to J. B. Dannenbaum, Bankers Mortgage Bldg., Houston, for underpass, State Highway 3; exca., pile driving and conc. abutments included.

Canning and Packing Plants

Ark., Pyatt—Ernest Young, Pyatt, and J. Swofford, Bergman, reported, will operate canning plant now under construction.

Miss., Hazlehurst—Shaver Bros., Inc., Jacksonville, Fla., establish plant.

N. C., Wallace—R. C. Teachey & Co., Inc., capital \$20,000, incorporated; R. C. Teachey, J. O. Teachey.

Tex., Crystal City—J. B. Bell, Cotulla, operating LaSalle Canning Co., Inc., reported, move plant to Crystal City.

Coal Mines and Coke Ovens

Tenn., Chattanooga—Suck Creek Coal Mining Co., incorporated; L. T. Dicks, 125 Market St.

W. Va., Fayetteville—Lookout Smokeless Coal Co., incorporated; W. S. Greiner, 619

Sixth Ave., Huntington; W. H. Holland and Solomon Holland, both Winona.

W. Va., Welch—Welch Pocahontas Coal Co., lately noted incorporated with R. B. Short, Pres., Cincinnati, O.; J. N. Harman, Jr., Sec., Welch, reported, acquired properties of Monarch Smokeless Coal Co. at Molegan near Welch, including 1400 acres of coal lands, 132 dwellings and store building; mine has capacity of 25,000 tons monthly; will improve; install screening equipment. 4-28

Cotton Compresses and Gins

La., Homer—Peoples Compress Co., reported, install equipment; cost \$25,000.

Drainage, Dredging and Irrigation

Florida—U. S. Engr. Office, Jacksonville, opens bids June 6 for dredging approx. 916,596 cu. yd. material, place measurement, from relocation cut in Intracoastal Waterway in vicinity of Ponce de Leon Inlet.

Fla., Allenhurst—U. S. Engr., Jacksonville, plans dredging 32,052 cu. yd. from canal, extend canal by constructing dikes.

Md., Baltimore—U. S. Engr., Custom House, probably call bids soon for 1,572,000 cu. yds. dredging, cut-off section, Baltimore channel.

Tex., Circle, P. O. Rusk—D. W. McGowan drilling 80-ft. irrigation well on 40-acre tract with own forces; Asher Supply Co., Plainview, furnish pump.

Tex., Plainview—F. W. Vandershoot let contract to J. C. Cook for 125-ft. irrigation well on 10-acre tract in Seth Ward area; Asher Supply Co., Plainview, install 500-gal. pump.

Virginia—U. S. Engr., Norfolk, reported, plans 1,120,000 cu. yds. dredging, Dismal Swamp Canal.

Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Md., Fishing Creek—South Dorchester Electric Light & Power Co., 12 W. Madison St., Baltimore, constructing generating plant Hoopers Island and pole line for transmission and distribution of power from Fishing Creek draw bridge to lower end of Hooper's Island; ultimate capacity 300 kw.; includes 20-ton ice plant; Public Service Comsn. granted permission to build plant and to issue 500 shares common stock. 5-5

Md., Hagerstown—Potomac Edison Co., plans expending \$265,000 for transmission and distributing line reconstruction and replacements, poles, cables, etc.; materials purchased.

Miss., Greenville—City, Guy Drew, Clk., receives bids May 23 for installing gasoline engine and generator set together with all necessary switching equipment.

Mo., St. Charles—Dr. L. E. Belding, Pres. of committee appointed by W. S. O'Neal, Mayor, to investigate practicability of erecting generating and distribution system fol-

Iowa report of Russell & Axon, Engrs., Roosevelt Bldg., St. Louis. 1-28

Okla., Idabel—City, reported, construct electric plant; cost \$100,000; F. D. Taffee, Engr.

Tenn., Franklin—State Railroad and Public Utilities Comsn., Nashville, reported, approved application of Franklin Power and Light Co. for issuance and sale of 1500 shares of common stock at \$100 per share for completion of power plant and distribution system. 3-12-31

Tex., Dallas—Dallas Power & Light Co., reported, expend \$17,500 for transformer equipment.

Flour, Feed and Meal Mills

Okla., Hydro—Farmers Co-Operative Elevator, capital \$25,000, incorporated; W. H. Talkington, Alfred Arbes.

Foundry and Machine Plants

S. C., Gaffney—Gaffney Foundry & Iron Works, incorporated; H. D. Sher, R. L. Champion.

Garages and Filling Stations

Fla., Orlando—Costley Motor Co., Inc., chartered; A. M. Costley, J. P. Harris, H. M. Gould.

Md., Baltimore—Monumental Welding Works, Inc., 3901 Philadelphia Rd., chartered; Harry Gaedke, Wm. F. Goehring.

Md., Baltimore—Michael Baner erect filling station N. E. cor. Harford Rd. and Glendale Ave.

Mo., Independence—Byrum Motor Co. incorporated; John I. Byrum, Independence; J. H. Woods, Kansas City.

Mo., Independence—Consumers Oil & Gas Station Co., incorporated; G. M. Jenkins, 3213 Broadway.

Mo., Sedalia—Maxwell S. Hoffman, Inc., chartered; Maxwell S. Hoffman, Nathan Sandler.

N. C., New Bern—New Bern Sales, Inc., capital \$25,000, incorporated; A. J. Flowers, Jr., B. F. Williams, L. P. Sutton.

Okla., Enid—Fidelity Motors, Inc., capital \$50,000, incorporated; H. H. Champlin, E. S. Champlin.

Okla., Kingston—Kingston Oil Co. incorporated; P. B. Flynn, T. E. Stennell and C. Clark, Wichita Falls, Tex.

Okla., Oklahoma City—Koberg Oil Co., capital \$95,000, incorporated; John Koberg, 2201 W. 13th St.

Tenn., Lewisburg—Woodward Chevrolet Co., Inc., capital \$25,000, incorporated; L. R. Woodward, Julian H. Green.

Va., Danville—Crowell-Dodson Auto Co., Inc., capital \$25,000, incorporated; C. Willard Dodson.

W. Va., Welch—Joe Mirable erecting filling station, Elkhorn and McDowell Sts., for City Service Center, Inc.; install modern automobile washing equipment.

Gas and Oil Enterprises

Fla., St. Petersburg—City, W. M. Cotton, City Mgr., receives bids May 16 for installing gas and water mains beneath Long Bayou to connect city mains with soldiers home site.

Okla., Oklahoma City—Thelzer Oil Co., incorporated; George Ritter, Petroleum Bldg.

Okla., Oklahoma City—Major Production Co., incorporated; W. U. Paul, 2701 N. W. 21st St.

Okla., Tulsa—BarDon Oil Co., capital \$25,000, incorporated; T. I. Sullivan, Gillette Tyrell Bldg.

Okla., Tulsa—Home Service Station Co., incorporated; O. C. Thomas, Hunt Bldg.

Tenn., Kingsport—Kingsport Utilities Co., subsidiary American Gas & Electric Co., 30 Church St., New York, granted renewal of gas franchise.

Tex., Brady—Empire Southern Gas Co., Alexandria, La., begin work in June on laying 5 miles 8-in. pipe line in industrial district.

Tex., Corpus Christi—Tule Lake Oil Co., incorporated; Wm. Marks, W. A. Wakefield.

Tex., Dallas—Oil Well Surveying Co., incorporated; F. H. Penn, 4400 Preston Rd.

Tex., Dallas—C. & B. Drilling Co., incorporated; J. W. Hassell, Jr., Magnolia Bldg.

Tex., El Paso—Home Oil Co., incorporated; S. L. Tooke, North Loop Rd.

Tex., Fort Worth—New State Oil Corp., incorporated; Leslie Russell, 811 Clairmont St.

Tex., Fort Worth—West State Oil Corp., incorporated; Y. D. Harrison, Jr., First Natl. Bldg.

Tex., Laredo—Caltex Royalty Corp., capital \$15,000, incorporated; Phillip Rosenberg, Mayo Bessan.

Tex., Laredo—South Texas Oil Co., incorporated; Barnett Rosenberg, Mayo Bessan.

Tex., Laredo—Montex Oil Co., incorporated; Phillip Rosenberg.

Tex., Longview—Miller Lacy Oil Co., capital \$45,000, incorporated; A. L. Conner, V. M. Miller.

Tex., San Antonio—Siznod Oil Corp., capital \$40,000, incorporated; Simon Donzis, Travis Bldg.

Tex., Texarkana—Walter Johnson erect filling station 3rd and Clay Sts.

Tex., Tyler—Sorrells Oil Co., incorporated; J. W. Sorrells, A. W. Owen.

Tex., Tyler—Bell-Jacobs Oil Co., incorporated; George M. Bell, C. E. Jacobs.

Tex., Tyler—Morefield Development Co., incorporated; W. H. Morefield, N. E. Hendrickson.

W. Va., Charleston—Littin Gas Co., incorporated; Paul E. Wehrle, 806 Mariana St.

Ice and Cold-Storage Plants

Ga., Atlanta—I. C. Wesley & Son, Red Rock Bldg., reported, has contract for ice plant on McDaniel St., S. E., for Knight Ice Co.; 1-story and basement; 81x65 ft.; concrete; brick walls; steel; steel sash; built-up roof; millwork; concrete floors; George Brungart, Jr., Engr., Jonesboro Rd.

Md., Fishing Creek—See Electric Light and Power.

Okla., Ada—J. A. McCurley, El Reno, reported, construct ice manufacturing plant; 1½ stories, 4x60 ft., 20-ton capacity; erect loading dock.

Okla., Lawton—Q. R. Shelton, Oklahoma City, reported, has contract for \$35,000 ice plant; Guy Dale, Archt., Lawton. 5-5

Okla., Oklahoma City—D. M. Jones erecting ice plant; 1 story, brick; cost \$18,000.

Okla., Sapulpa—George Wells, Inc., Security Bldg., St. Louis, Mo., reported, erect ice plant, 25 ton capacity.

S. C., Laurens—City Ice Co., F. H. Caine, erecting ice plant, day labor, 45x52 ft.; brick; cement and cork floor; tar and gravel roof; Frick Co., Waynesboro, Pa., equipment contractor. 5-5

Tenn., Memphis—North Side Ice Co., Henry G. Mitchell, let contract Carlross Well Supply Co., 116 S. Front St., Memphis, for 200-g.p.m. Cook well and Cook self oiling deep well turbine pump.

Tex., Victoria—Victoria Ice Co., Inc., chartered; J. E. Sinco, E. T. Staton.

Iron and Steel Plants

W. Va., Huntington—Huntington Steel Products Co., organized by D. W. Allan, Clark Bldg., Pittsburgh, Pa., and M. B. Mitchell Fairmount, to take over plant of Huntington Iron Works, 831 Adams Ave.; manufacture steel and ornamental iron products; also acquired plant of S. B. Renchok Iron Works, 1011 Monroe Ave., moving machinery and manufacture light ornamental iron and metal outdoor furniture to Adams Ave. location; expend \$50,000 for improvements.

Land Development

Fla., Eliebean—W. H. Taylor Interests, Punta Gorda, reported, preparing 1000-acre farm in Charlotte County, 1½ miles from Eliebean for colonization.

Fla., Miami—Ocean Drive Realty Co., incorporated; B. S. Hancock, Jr., 2619 S. W. Fifth St.

Ga., Atlanta—Sterling Associates, Commercial Exchange Bldg., organized with W. S. McDonald, Pres., Charleston, S. C.

Ky., Lexington—Hinata Farm, incorporated; Jack S. Young, Hampton Ct.

La., New Orleans—Long-Gannon Realty and Investment Co., capital \$70,000, incorporated; Nicholas J. Long, 2932 Canal St.

La., New Orleans—Jouett Realty Co., capital \$30,000, incorporated; Chas. Pivert, 4536 Carrollton St.

Md., Baltimore—Eastern Co., 800 Baltimore Life Bldg., chartered; George R. Coleburn, H. Warren Buckler, Jr.

Md., Baltimore—Monumental Builders, Inc., 1723 N. Payson St., chartered; Ellis M. Herman, Gersh I. Moss.

Md., Baltimore—Bankers Realty Co., Inc., 915 Equitable Bldg., chartered; Kalman Perelman, Equitable Bldg.

Mo., Kansas City—The Harris Corp., capital \$50,000, incorporated; P. S. Harris, 5240 Bellevue St.

Mo., Kansas City—Wildwood Land Co., incorporated; J. P. Tiernan, 5731 Locust St.

Mo., St. Joseph—United Realty Co. incorporated; Thomas J. Quinn, R. E. Gardner.

Mo., St. Louis—S. V. R. Realty Co., incorporated; J. A. Singer, 208 N. Broadway.

N. C., Gastonia—Beaverdam Securities Co., capital \$50,000, incorporated; E. S. Whitaker, R. O. Crawford, J. L. Gordon.

N. C., Gastonia—A. B. Holland Realty Co., capital \$100,000, incorporated; A. B. Holland, J. M. Holland.

N. C., Raleigh—Green Realty Co., capital \$50,000, incorporated; J. W. Bunn, Lawyers Bldg.

N. C., Wilmington—Greenfield Drive Realty Co., capital \$20,000, incorporated; C. B. Parmele, 214 Princess St.

Okla., Billings—Henry Heitholt Memorial Cemetery incorporated; Henry Heitholt, Enid; Dick Ehler, Billings.

Tex., Dallas—Hoblitzell Realty Co., incorporated; Karl Hoblitzell, 1921 Elm St.

Tex., Houston—Travis and Dallas Realty Co., incorporated; E. L. Neville, 11 Courtland Rd.

Tex., Houston—Leeland Ave. Realty Co., incorporated; W. S. Cochran, 1324 S. Blvd.

Tex., Raymondville—Delta Orchards Development Co., incorporated; Ned H. Sayford, Leo Brewer.

Va., Roanoke—M. F. Cleaton Realty Corp., capital \$50,000, incorporated; M. F. Cleaton, Colonial Natl. Bank Bldg.

Lumber Enterprises

Florida—Taylor Naval Stores Co., Jacksonville, recently organized by W. H. Moore, 114 E. Louise St., South Jacksonville, acquired Taylor Turpentine Place in Baker County containing large supply of round slash pine timber; operation in charge of Forest Managers, Inc., Jacksonville.

Md., Hobbville, R. D. Baltimore—Laurel Lumber Co., Inc., chartered; Albert Bush, 706 E. 21st St., Baltimore.

N. C., Windsor—Gray Mfg. Co., reported, acquired 9000 acres timber land in Bertie county.

S. C., Columbia—Roof Lumber & Supply Co., incorporated; D. W. Roof, W. Elmwood Ave.

Tex., Luling—Buchanan Lumber Co., capital \$20,000, incorporated; J. W. Buchanan, Lee Kilgore.

Mining

N. C., Lincolnton—American Consolidated Tin Mines Corp., W. O. Heffernan, Pres., and Clarence S. Ashley, Sec., 120 Liberty St., both New York, reported, acquired property of Lincoln tin mine.

Miscellaneous Construction

Ark., Helena—See Memphis, Tenn.

Fla., St. Augustine—City applied to U. S. Engr. Office, Florida Theater Bldg., Jacksonville, for permission to construct fishing pier at Lighthouse Park; 175 ft. long, 10 ft. wide, with T-head 10x30 ft., 10-ft. dimension being included in total length of pier; bottom of stringers will be 8 ft. above plane of mean low water; plans with City Engr., and at U. S. Engr. Office.

Missouri—U. S. Engr., Memphis, Tenn., asking bids on grading 19 mi. levee crown, Bird's Point-New Madrid floodway levee, near Wyatt and New Madrid, Mo.

Mo., Caruthersville—See Memphis, Tenn.

Tenn., Memphis—U. S. Engr. Office, P. O. Box 97, has low bids for approx. 18,781,000 cu. yd. earthwork, St. John's Bayou Levee and Lower St. Francis, White River and Upper Yazoo Levee Districts, designated as follows by item number, est. yardage, kind of work, bidder, unit price: R-71A, 362,000, enlargement, Boone & Wester, Inc., Helena, Ark., 25.00c; R-71B, 548,000, enlargement, U. S. hired labor, 13.65c; R-143B, 470,000, new, U. S. hired labor, 11.55c; R-143C, 475,000, new, U. S. hired labor, 11.16c; R-143A, 150,000, new, Harris & Bradenbury, West Memphis, Ark., 17.80c; R-143D, 110,000, new and enlargement, Trinityfarm Construction Co., 1208 Petroleum Tower Bldg., Dallas, 20.40c; R-353A, 535,000, new same firm, 20.38c; R-356-A, B. C. & D., 570,000, 560,000, all new, same firm, 18.65c; 215,000, enlargement, Greater Construction Co., Knoxville, Tenn., 18.80c; R-319A, 500,000, new, Valley Dredging Co., Donna, Tex., 17.00c; R-353B, 535,000, new, same firm, 17.00c; R-319B, 500,000, new, R. T. Clark Co., Inc., Delta Construction Co., J. W. Noble and M. G. Morrissey, Natchez, Miss., 17.68c; R-320A, 480,000, new, Stevenson Co., Dumas, Ark., 17.50c; R-320B, 463,000, new, Ayres & Graves, Alexandria, La., 18.50c; R-321A, B. 1,000,000, new, Hardaway Contracting Co., Columbus, Ga., 20.00c; R-260A&B, 984,000.

new, F. S. Neely, P. O. Box 5217, Memphis, Tenn., 13,300; L-26A, B & C, 1,820,000, new, E. F. Powers Construction Co., West Palm Beach, Fla., 15,400; L-332A&B, 1,114,000, new and enlargement, Globe Construction Co., Inc., 4616 Thalia St., New Orleans, La., 18,000; L-353C, 525,000, new, Charles W. Gresson, Opelousas, La., 17,400; L-353D & E and L-354A, B & C, 2,430,000, new, A. Guthrie & Co., Inc., 1300 Bldrs. Exch. Bldg., St. Paul, Minn., 16,700; L-354D, 600,000, new, Stevens Bros. & Miller Hutchinson Co., New Orleans, La., 21,850; 570,000, new, Henry Hughes Co., Inc., 1181 Shrine Bldg., Memphis, Tenn., 19,500; L-357A&B, 1,005,000, new, J. T. Pollard, Greenville, Miss., 18,900; L-357C, 495,000, new, Walter E. Denison & Son, Cushman, Ark., 18,250; L-357D, 425,000, new, same contractors, 17,500; L-358, 200,000, enlargement, Dave Elkas, Leota, Miss., 17,700; 3-31

Tenn., Memphis—U. S. Engr. Office, P. O. Box 97, opens bids June 2 for 10,769 ft. conc. wall, Cairo, Ill., Caruthersville, Mo., and Helena, Ark.; Item R-O, Cairo, Ill., 4500 l. f. wall consisting of steel sheet pile cut-off walls with conc. cap, 3500 cu. yd. 40 cu. yd. embankment, 1010 cu. yd. conc., 22,500 lb. rein. steel, 5000 lb. struc. steel plates, angles and anchors, 206,800 sq. ft. steel sheet piling, 25 sq. yd. riprap paving, 76 M. ft. b. m. timber stop logs, 620 cu. yd. balanced grading; R-112, Caruthersville, Mo., 3097 l. f. conc. wall, with steel sheet pile cut-off wall, 3500 cu. yd. exca., 4415 cu. yd. conc., 57,500 lb. rein. steel, 24,000 lb. struc. steel plates, angles and anchors, 87,300 sq. ft. steel sheet piling, 505 sq. yd. riprap paving, 9.2 M. ft. b. m. timber stop logs, 890 l. f. removal old wall; R-307B, Helena, Ark., 3112 l. f. conc. wall, with steel sheet pile cut-off wall, 7500 cu. yd. exca., 3800 cu. yd. embankment, 6160 cu. yd. conc., 178,700 lb. rein. steel, 26,600 lb. struc. steel plates, angles and anchors, 163,500 sq. ft. steel sheet piling, 4750 sq. yd. 8.6 M. f. b. m. timber stop logs.

Tex., Amarillo—Burrus-Panhandle Elevators, J. Perry Burrus, Pres., 2701 Alamo St., Dallas, broke ground for 500,000-bu. addition to 2,100,000 bu. grain elevator; 200 ft. long, south of present plant, making entire elevator 1000 ft. long; J. R. Jones, Local Mgr.

Va., Quantico—Chief, Bureau of Yards and Docks, Navy Dept., Washington, D. C., let contract to Palmer Construction Co., Florence, S. C., at \$26,536, for timber fender system and conc. pavement for pier and conc. sheet pile bulkhead, marine barracks. 5-5

Miscellaneous Enterprises

Ala., Mobile—Packing House Co., incorporated; Wm. H. Rowell, Halls Mill, Rd.

Ark., Fort Smith—Interstate Vinegar Co., organized by B. C. Bates, Jr., formerly Little Rock; establish vinegar plant in old Fort Smith Cereal Co.'s building; capacity 250,000 gal. vinegar yearly.

Fla., Daytona Beach—A. F. Perry, Jr., Barnett Bldg., Jacksonville, reported, has contract for plant for Coca Cola Bottling Co., at Beach St. and Arlington Ave.; 1 story; conc. and steel and stucco. 5-5

Ga., Augusta—St. Johns River Line Co., G. F. Thresher, Pres., Jacksonville, Fla., reported, plans leasing steamer Altamaha and terminal facilities of Augusta-Savannah Line at both Augusta and Savannah; operate boat line; build a 300-ton Diesel engine boat, "Port of Augusta," and while boat is under construction operate 180-ton motor boat Deland; proposition submitted to River and Wharves Committee, C. W. Killbrew, Chmn.

Ga., Rome—Almarstel Dairy Co., incorporated; H. A. Dean, Clyde Cox; continue existing business.

Ky., Covington—Reliance Dyeing & Finishing Corp. incorporated; W. A. Clark, H. J. Kratz, G. W. Hughes.

Ky., Lexington—Central Kentucky Film Service, incorporated; Charles H. Behlen, 154 Preston Ave.

Ky., Louisville—Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa., reported, has contract for 100 tons fab. plate for two 75,000 gal. tanks for American Suppliers Co., Inc., subsidiary of American Tobacco Co., 111 Fifth Ave., New York. 3-31

Ky., Mayfield—Curlee Clothing Co. (formerly Mayfield Woolen Mills), reported, installing 160 machines, remodel building. 9-3

La., Shreveport—Standard Milk Dairies, Inc., chartered; Hugh M. Oliphant, L. M. McClain.

Md., Annapolis—Avalon Shores, Inc., chartered; Edw. S. Hine, Bond Bldg., Washington, D. C.; Theodore E. Terrell, Yonkers, N. Y.

Md., Baltimore—Henley Publishing Co., Inc., chartered; Nathan Kramer, 2200 Callow Ave.

Md., Baltimore—Carriage and Toy Co., re-

build burned plant, 634-38 W. Pratt St.; John Heiner, Plant Engr.

Md., Baltimore—American Hampton Roads and Oriole Lines, A. T. Ross, operating vice-president both lines, offices Export Steamship Co., Keyser Bldg., plans making Baltimore operating center for lines; operate 11 ships Baltimore to London, Leith, Dundee, and Hull.

Md., Baltimore—Maryland Roofing Co., Inc., 2101 Boston St., chartered; Howard L. Frank, Gordon E. Myers.

Md., Baltimore—Baltimore Brevities Corp., Sonneborn Bldg., incorporated; Morton H. Rosen, 111 N. Calvert St., printing.

Md., Hagerstown—Log Cabin Ice Cream Co., 52 W. Antietam St., let contract to York Ice Machinery Corp., York, Pa., for equipment. 4-21

Md., Salisbury—Purity Creamery, Inc., chartered; Wm. J. Downing, Jr., Charles M. Freeman.

Miss., Meridian—Great Southern Hotel Operating Co., incorporated; N. I. Washburn, 2223 Poplar Springs St.

Mo., Kansas City—T. & R. Medical Co. incorporated; Peter Karnazes, 3835 Brooklyn Ave.

Mo., Kansas City—Associated Laundries, Inc., chartered; Elma B. Adams, 4819 E. Seventh St.

Mo., Kansas City—Sayles Corp., incorporated; J. F. Porter, Jr., 5318 Locust St.; manufacture steam radiators.

Mo., Kansas City—Interstate Amusement Co., incorporated; Harry L. Whitesell, 1605 W. 51st St.

Mo., St. Louis—Conner, Ash & Co., chartered; O. F. Ash, 7621 Shirley Ave., Clayton, St. Louis; E. F. Conner, 7143 Kingsbury, University City; manufacture office appliances.

Mo., St. Louis—Southwest Engraving Co., incorporated; Phil. L. Hoerr, 3201 N. Taylor St.

Mo., St. Louis—Stuart & Wetzel, Inc., chartered; S. A. Wetzel, 820 E. Big Bend St.; construction.

Mo., St. Louis—Dunham-Daly Co., incorporated; Edw. M. Dunham, Chemical Bldg., contracting.

Mo., St. Louis—St. Louis Automatic Sprinkler Co., incorporated; Albert S. Hess, 4712 Margaretta St.

N. C., Greensboro—Guilford Electrical Co., capital \$100,000, incorporated; G. W. Jordan, 2208 Sherwood St.

N. C., Winston-Salem—Mengel Co., A. W. Cornwall, Jr., Mgr., 15 W. 24th St., reported, move company's shipping container plant from Louisville, Ky., to Winston-Salem; moving of equipment, plant lay-out and assembly under direction of Lyman C. Martin; new branch will be in charge of William Colvin.

Okla., Tulsa—CO₂ Appliance Co., capital \$100,000, incorporated; R. D. Teasley, 1341 E. 36th St.; manufacture machinery for producing carbon dioxide for bottling works.

Okla., Tulsa—Howe Packer Co. incorporated; D. E. Sigmon, 614 E. Fourth St.; manufacture oil well packers.

S. C., Charleston—Puck Candy Co., incorporated; H. F. Puckhaber, Jr.; Wm. J. Bargmann.

Tenn., Memphis—Luco Mid-South Co., 260 Monroe St., incorporated; A. J. Donelson, Court Square Bldg.; paints.

Tex., Austin—P. & G. Mineral Water Co., incorporated; W. W. Robinson, H. S. Gullett, D. F. Ridell.

Tex., Austin—Peter Pan Bakery, incorporated; W. L. Paulissen, J. V. Maery.

Tex., Corpus Christi—S. Maston Nixon, special representative in Texas for Southern Alkali Corp., H. A. Gault, Pres., Barberton, O., reported, acquired gas rights on 1378 acres in Nueces County, including 3 producing wells and option for use of all gas to be produced on 1230 additional acres; company proposes to erect plant for manufacture chemicals, including basic alkali for commercial use; no definite date for beginning work; company is a subsidiary of Pittsburgh Plate Glass Co., 16 E. 40th St., New York, and American Cyanamid Co., 535 Fifth Ave., New York. 11-5

Tex., Dallas—Producers Milk Co., capital \$25,000, incorporated; Wm. T. Whitehurst, Fidelity Union Bldg.

Tex., Fort Worth—Rogers Distributing Service, incorporated; Homer Tomlinson, 3100 Odessa St.

Tex., Houston—Sylvan Beach Co., incorporated; E. L. Crain, Union Natl. Bk. Bldg.

Tex., Mexia—Bi-Stone Co-Operative Creamery, incorporated; S. S. Cox, Val Horn, Leonard Tidwell.

Tex., Overton—Overton Publishing Co., incorporated; Henry Edwards, J. E. Edwards.

Tex., San Antonio—S. E. Knowlton Creamery Co., 1415 W. Summit Ave., reported, approved preliminary sketches by L. Harrington Co., Archt., Builders Exchange Bldg., for creamery on Fredericksburg Rd. at Martinez Creek; 2 stories; English type; brick; struc. clay tile and rein. conc.; cost \$50,000. 4-7

Va., Harrisonburg—Cavalier Press, Inc., capital \$20,000, incorporated; John S. Peters.

Va., Lexington—Owl Electric Co., Inc., capital \$15,000, incorporated; Euchlin D. Reaves.

Va., Lynchburg—General Research Corp., capital \$25,000, incorporated; Thomas F. Torrey, 3204 Rivermont Ave.

Va., Lynchburg—Campbell-Payne, Inc., capital \$50,000, incorporated; J. G. Payne, 904 Kemper St.; building material.

Va., Norfolk—Ice-master Mfg. Co., Inc., capital \$25,000, incorporated; Henry G. Barbee, Southgate Terminal; manufacture ice shaving machine.

Va., Richmond—American Amusement Corp., capital \$50,000, incorporated; Charles A. Somma, Fair Grounds.

Va., Richmond—Southland Apartment Corp., capital \$50,000, incorporated; J. Stuart Graham, 408 E. Main St.

W. Va., Chester—E. C. Otis Mfg. Co., Inc., manufacturers of tar and asphalt products, advises machinery for plant purchased from Guyton & Cumfer Mfg. Co., 4451 Fillmore St., Chicago, Ill.; trucks from Lansing Truck Co., Lansing, Mich.; boiler from Titusville Iron Works Co., Titusville, Pa., and motors from Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., and Crocker-Wheeler Electric Mfg. Co., Ampere Sta., N. J. 5-5

Motor Bus Lines and Terminals

Fla., Miami—Florida Motor Lines, Inc., Orlando, C. G. Medlock, Local Mgr., Miami, reported, erect union bus terminal N. W. Cor. N. E. First St. and Third Ave.; C. Heyward Oemler, 708 Seybold Bldg. and 1014 Realty Bldg., Archt.

Ga., Atlanta—State Public Service Comsn., Atlanta, considering petition of Georgia Highway Transport Co., subsidiary of Georgia R. R., to operate buses between Augusta and Atlanta.

Md., Baltimore—Virginia Tidewater Lines, Inc., 929 Investment Bldg., Washington, D. C., has permit to operate interstate freight bus line from Baltimore to points on Northern Neck, Va.

Mo., St. Louis—Illmo Trucking Service Co., capital \$20,000, incorporated; A. B. Joseph, 6314 Northwood St.

N. C., Monroe—Seaboard Air Line Railway, L. R. Powell, Jr., Receiver, Norfolk, Va., reported, granted permission by State Corporation Comsn., Raleigh, to operate freight line between Hamlet and Monroe over 50 mile highway paralleling its tracks. 4-21

Tex., McKinney—Mockford Transfer Co., incorporated; M. C. Bozeman, B. H. Cope.

Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

Proposed Construction

Ark., Fort Smith—Luke Construction Co., Fort Smith, has contract for 18 blocks paving, North B, Sixth and Second Sts.

D. C., Washington—Dist. Commrs., 427 Dist. Bldg., open bids May 18 for repairing asphaltic pavements with asphaltic materials, repairing 46,000 sq. yd. cement conc. bases, furnishing 14,000 tons bituminous conc. mixture for cold patching and surface treatment of 260,450 sq. yd. streets, roads and avenues with bituminous material; bids May 19 for repairing 40,000 sq. yd. cement conc. sidewalks and 40,000 sq. yd. cement roadway and alley pavements.

FLORIDA—State Road Dept., H. H. Wells, Chmn., Tallahassee, opens bids May 16 for 9 roads and bridge project in following counties:

Duval—4 rein. conc. multiple culverts, FAP 79-B, Road 4;

Volusia-Seminole—hydraulic embankment and necessary drainage structures, FAP S5, Road 3;

Broward—2.07 mi. clearing, grubbing, grading, lime rock base surface treated and drainage structures, Hollywood to Dade County line, Proj. 1002, Road 140;

Jefferson—7.34 mi. laying Ocala lime rock

base and surface treatment and incidental construction, Leon County line toward Capps, FAP 87-A, Road 19;

St. Lucie—17,000 tons Ocala lime rock for base construction, f. o. b. cars, Ft. Pierce, Proj. 696, Road 6; 16,896 gal. tar prime, T-C-1, f. o. b. cars Ft. Pierce, Proj. 696, Road 8;

Pinellas—18,000 tons Coale lime rock for base construction, f. o. b. cars Seminole, Proj. 729, Road 15;

Okaloosa—23,395 gal. tar prime T-C-2, f. o. b. cars Crestview, Proj. 3-A, Road 218;

Gadsden—4287 tons round gravel for road mix surface treatment, f. o. b. cars Havana, Fla., Proj. 711, Road 58;

Palm Beach—10.9 mi. scarifying and re-shaping portion of present base and surface treating project, Belle Glade to Pahokee, Proj. 870, Road 143.

Florida—State Highway Comsn., H. H. Wells, Chmn., Tallahassee, opens bids May 16 for oil asphalt (summer type), designated as follows by project number, county, amt. (gal.), destination, f. o. b. cars: 969, St. Lucie, 33,792, Ft. Pierce; 751, Walton, 42,708, DeFuniak; 752, Walton, 32,852, DeFuniak; 3-A, Okaloosa, 64,336, Crestview; 634, Jackson, 23,802, Cypress; 658, Holmes, 10,559, Bonifay; 1, Okaloosa, 13,638, Holt; 585, Santa Rosa, 16,200, Milton; 514, Jackson, 19,652, Cypress; 646, Franklin, 8799, Lanark; Proj. 712, Road 58, Gadsden County, approx. 68,550 gal. liquid asphalt for road mix surface treatment, f. o. b. cars Havana, Fla.; also, for cover materials for surface treatment and retreatment, designated as follows by project number, county, amt. (cu. yd.), type, f. o. b. cars destination: 696, St. Lucie, 1378, double, Ft. Pierce; 751, Walton, 1742, single, DeFuniak; 752, Walton, 1340, single, DeFuniak; 3-A, Okaloosa, 2386, single, Crestview; 634, Jackson, 400, retreatment, Marianna; 634, Jackson, 1189, retreatment, Cypress; 658, Holmes, 353, retreatment, Caryville; 658, Holmes, 353, retreatment, Bonifay; 1, Okaloosa, 668, retreatment, Galliver; 1, Okaloosa, 831, retreatment, Holt; 590, Santa Rosa, 576, retreatment, Florida; 585, Santa Rosa, 1665, retreatment, Milton; 514, Jackson, 328, retreatment, Sneads; 514, Jackson, 328, retreatment, Cypress; 514, Jackson, 565, retreatment, Grand Ridge; 646, Franklin, 587, retreatment, Lanark.

Ky. Horse Cave—City expend \$10,000 for street widening; bonds voted.

Ky. Lexington—City, Paul Morton, City Mgr., let contracts in June for 30-ft. bitum. conc. or asphaltic conc. street paving, requiring earth excavation; J. White Guyan, Engr. 5-5

Ky. Paducah—McCracken County Fiscal Court approved reconstruction of Hinkleville road; N. E. Stone, probable contr.

La. Tallulah—Madison Parish Police Jury, P. O. Benjamin, Sec. and Engr., opens bids June 1 for constructing with gravel surface of Stockland Extension road, approx. 2.6 mi.; separate bids to be received same date for construction with gravel surface Montrose-Fortune Fork road, approx. 2.7 mi.; proposal forms will be ready May 27.

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, opens bids May 17 for 5 roads in following counties:

Harford—5.17 mi. macad., Bagley on Harford road to Shipley's Corner on Philadelphia road, H-118-44, FAP 244;

Anne Arundel—2.07 mi. gravel, Muddy Creek road, end of AA-19 toward Quaker Burying Ground, AA-108-74;

Frederick—1.67 mi. conc., Meyersville-Wolfsville road, end F-82, near Middlepoint toward Wolfsville, F-190-52;

Harford—1.35 mi. macad., Fallston to Harford road, Bagley, H-144-42;

Kent—0.14 mi. conc., Cross St., Chestertown, Maple Ave. to High St., K-71-211.

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, has low bids for 3 roads:

Garrett County—7.44 mi. conc. shoulders, National Pike, end A-86 G-70 at Chestnut Ridge to Keyser, G-76-611, FAP 252, Thomas, Bennett & Hunter, Westminster, \$107,974;

Baltimore City—1.0 mi. sheet asphalt, including 0.83 mi., Philadelphia road, 500 ft. east of Monument St. to Herring Run bridge, 0.17 mi., North Point road, south of Philadelphia road, BC-117-72, American Paving & Contracting Co., 2525 Montebello Ave., Baltimore, \$35,798;

Cecil-Kent Counties—1.34 mi. conc., Warwick-Sassafras road, near Warwick to Sassafras, Co-127, K-67, K-68, Hannaman-Burroughs Co., Salisbury, \$23,784, 4-28

Md. Baltimore—City, George Cobb, Highways Engr., City Hall, opens bids May 18 for 8700 sq. yd. sheet asphalt, Cont. 619; plans \$5.

Md. Towson, Baltimore—Baltimore County Comms., John H. Haut, Ch. Clk., Court House, opens bids May 17 for: Group 2, Combination curb and gutter and conc.

shoulders, Edmondson Ave., Beechwood Ave. to Rolling road, .5 mi., First Dist.; Jackson P. Grason, Roads Engr.

Miss. Waveland—Town, Bd. of Mayor and Aldermen, George T. Herlihy, Town Sec., opens bids May 20 for paving and improving streets; 3550 cu. yd. exca. and embankment, 625 cu. yd. drainage exca., 2466 lin. ft., 15, 18, 24 and 30-in. pipe, 7 inlets and grates, 3017 cu. yd. washed gravel, 3017 cu. yd. units gravel unloaded and hauled 1 mi., 2400 cu. yd. units gravel overhaul 1/2 mi. units, 1205 cu. yd. binder clay, furnished, mined and hauled 1 mi., 935 cu. yd. units binder clay overhaul 1/2 mi. units, 36,187 sq. yd. mixing binder clay, 38.13 cu. yd. rein. conc. masonry, 3639 lb. rein. steel, 36,187 sq. yd. triple application surface treatment coarse graded asphaltic conc. or Topoka mix.

MISSOURI—State Highway Comsn., T. H. Cutler, Ch. Engr., Jefferson City, has low bids for 70 roads and 2 bridges in following counties:

Barry—3.163 mi., 4.792 mi., 2.956 mi., 2.839 mi., 4.527 mi., 3.572 mi. gravel, SA-1A, SA-2A, SA-3A, SH-4A, SH-5A, SH-6A, M. E. Gillioz, Monett, \$2204, \$3476, \$2144, \$1252, \$2363, \$2101;

Butler—4.091 mi., 3.185 mi. graded earth and gravel, 2.545 mi. gravel, SC-2, SC-3, SE-1, Lahar Construction Co., Boonville, \$14,648, \$94.00, \$4567;

Camden—524-ft. bridge, SJ-3, Harrison Engineering & Construction Co., Fairfax Bldg., Kansas City, \$31,374; 4.973 mi., 4.997 mi. graded earth, gravel and crushed rock, ST-4, ST-5, State Highway Dept., \$18,039, \$15,971; M. E. Gillioz, second low bidder, \$18,759, \$16,973;

Carroll—2.593 mi., 3.237 mi., 4.615 mi. 10-ft. conc., 2.408 mi. 20-ft. conc., 320F, 320G, 320H, 320I, C. H. Atkinson Paving Co., Chillicothe, Mo., \$16,557, \$19,851, \$67,008;

Cedar—3.580 mi. gravel and crushed stone, SC-1, J. A. Kerr, Ozark, \$10,160;

Christian—3.278 mi., 0.258 mi. gravel, 65-101, SB-4, Kelly & Underwood, Granby, \$19,508, O. O. Fuller, Nevada, Mo., \$18,494;

Greene—0.241 mi. gravel, SB-3, O. O. Fuller Construction Co., \$11,370;

Clinton—4.717 mi. 20-ft. conc., 33-344A, Brosnahan Bros., 215 W. White Oak St., Kansas City, \$78,300;

Cole—4.833 mi., 4.414 mi., 4.609 mi. 20-ft. conc., 349A, 349B, 349C, Harrison Engineering & Construction Co., \$53,902, \$62,818, \$55,203;

Dallas—0.155 mi. gravel, SE-1A, O. O. Fuller Construction Co., \$3864;

DeKalb—1.648 mi. chas., SJ-1, Nevada Construction Co., Nevada, Mo., \$26,889;

Franklin—0.4401 mi. 20-ft. conc., 50-74A, M. J. Smith, St. Charles Rk. Rd., St. Louis, \$10,148; 3.767 mi. gravel, SE-2, H. D. Thomas, Fulton, \$8242;

Gasconade—3.497 mi. gravel, SB-1, H. D. Thomas, \$9422;

Henry—4.005 mi. chas., SE-3, O. O. Fuller Construction Co., \$14,491; Alt. 1, John Spitecaufsky, Kansas City, \$14,181; 3.996 mi. chas., SE-4, O. O. Fuller Construction Co., \$15,461; Alt. 1, John Spitecaufsky, \$15,130;

Howell—4.462 mi., 4.568 mi. gravel, SC-2A, SC-3A, Carte-Harlin Construction Co., West Plains, \$2057, \$2244;

Oregon—4.517 mi., 4.055 mi. gravel, SC-4, SC-5, Carte-Harlin Construction Co., \$8171, \$7935;

Jackson—4.896 mi. graded earth, 352B, Perry McGlone, Harrisonville, \$67,815;

Johnson—0.152 mi. chas., SC-1A, O. O. Fuller, Nevada, Mo., \$3941;

Laclede—4.891 mi. gravel and crushed rock, SD-5, Chaney & Amyx, Branson, \$19,884;

Lawrence—4.006 mi., 3.367 mi., 3.356 mi. gravel and crushed rock, 38-8, 38-9, 38-10, Neyer Construction Co., Billings, \$19,567, \$21,861, \$24,266;

Miller—1.098 mi. gravel, SP-1, Chas. Spitecaufsky, \$2550;

Macon—3.471 mi., 2.903 mi., 2.899 mi. gravel, SA-1, SA-2, SA-3, Graham Bros., 3005 Van Brunt St., Kansas City, \$12,125, \$13,484, \$9062;

Mississippi—4.053 mi. gravel, SD-1, S. J. Cohen Co., Blytheville, Ark., \$16,298;

Monroe—2.103 mi. gravel, ST-2, Graham Bros., \$4193;

Oregon—3.514 mi., 4.171 mi. gravel, 19-47, 19-48A, Carte-Harlin Construction Co., \$28,011, \$14,570;

Nodaway—4.734 mi., 4.677 mi., 0.413 mi. 10-ft. conc., 336-A, 336-B, 336-C, Carlson Construction Co., Maplewood, \$25,826, \$26,670, \$2404;

Pemiscot—0.387 mi. 9-ft. conc. and gravel, 84-10A, S. J. Cohen & Co., \$30,008;

Polk—2.765 mi., 3.142 mi. gravel and crushed rock, SJ-1, SJ-2, Chaney & Amyx, \$8573, \$9372;

Putnam—1.044 mi., 4.848 mi. gravel, 5-3B, SA-1, Amos Melberg, Cedar Rapids, Iowa, \$11,347, Hoover Bros. Construction Co., Mainstreet Bank Bldg., Kansas City, \$9942;

Randolph—bridge, 24-34D, Amos Melberg, \$29,394;

Reynolds—4.462 mi., 4.812 mi. gravel, 72-11, 72-12, McMahon & Waller, Rich Hill, \$22,112, \$17,193;

Ste. Genevieve—3.514 mi. gravel, 32-39, Knox & Penzel, Jackson, Mo., \$28,004;

St. Louis—2.896 mi. 10-ft. conc., 2.210 mi., 0.365 mi. 20-ft. conc., 77TR-10A, 77TR-11A, 77TR-12A, Carlson Construction Co., Maplewood, \$17,651, \$25,998, \$4850;

Warren—2.311 mi. graded earth and gravel, SH-1, H. D. Thomas, Fulton, \$7451;

Webster—3.688 mi., 3.220 mi. gravel and crushed rock, SE-1, SE-2, Lahar Construction Co., Boonville, \$9505, \$8719;

Audrain—10.2 mi. oiling, 54 Detour, Imperial Trucking Corp., 1900 Central St., Kansas City, \$3813;

Morgan-Cooper—14.0 mi. gravel haul, 5-M1, A. A. Davis Co., Inc., Oklahoma City, \$6650;

Morgan—0.2 mi. gravel haul, 5-M2, H. D. Thomas, Fulton, \$3864;

Newton—12.5 mi. gravel or crushed stone haul, SC-M1, A. A. Davis Co., Inc., Cotton Grain Exch. Bldg., Oklahoma City, \$4221;

Division—6-oiling, Group 6-B, Carter-Waters Corp., 2440 Pennway, Kansas City, \$7383, 4-25

Mo. Clayton, St. Louis—St. Louis County, Roy Jablonsky, Highway Engr., opens bids May 18 for improving Lexington Ave., north side Florissant St., Beal St. and Hanley road.

Mo. St. Louis—City Bd. of Public Service, City Hall, opens bids May 24 for constructing and improving alleys, Lettings 4426-4431.

North Carolina—State Highway Comsn., Leslie R. Ames, Engr., Raleigh, opens bids May 17 for 1.79 mi. hard surface highway, Route 60, Watauga County.

North Carolina—State Highway Comsn., Leslie R. Ames, Engr., Raleigh, opens bids within 30 days for 6.8 mi. 18-ft. traffic bound macad., State Route 90, Knoxville east, Proj. 7331.

N. C. North Wilkesboro—City let contract to D. J. Brookshire for widening C St., 9th to 10th.

OKLAHOMA—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, opens bids May 17 for 2 roads and 5 bridges in following counties:

Marshall—13.961 mi. grading, draining, 3 bridges, State Highway 48, between Madill and Red River bridge approx. 2 mi. south-east of Woodville, SAP 824, Sec. A & B; Sec. A—Roadway, 91,980 cu. yd. exca., 493.6 cu. yd. "A" conc., 37,620 lb. rein. steel, 532 l. f. 18, 24 and 30-in. rein. conc. pipe; Sec. A—Bridge, 250.2 cu. yd. "A" conc., 18,680 lb. rein. steel; Sec. B—Roadway, 90,757 cu. yd. exca., 565 cu. yd. "A" conc., 47,330 lb. rein. steel, 876 l. f. 18, 24 and 30-in. rein. conc. pipe; Sec. B—Bridges, 1500 cu. yd. "A" exca., 431 cu. yd. "A" conc., 76 cu. yd. "AA" conc., 35,500 lb. rein. conc., 218 l. f. rein. conc. hand rail, 53,700 lb. struc. steel, removing 2 old bridges;

Kiowa—5.931 mi. grading, small drainage structures and 2 bridges as follows: 2—8x4x38 ft. r. c. b. and 5—36-ft. I-beam span, 22 ft. roadway, State Highway 14, south of Hobart, FAP 247, Sec. D—Roadway, 77,068 cu. yd. "A" exca., 332 cu. yd. "A" conc., 27,869 lb. rein. steel, 76 l. f. 18-in. r. c. pipe; Sec. D—Bridges, 2500 cu. yd. "A" exca., 2161 cu. yd. "A" conc., 125 cu. yd. "AA" conc., 35,930 lb. rein. steel, 89,500 lb. struc. steel, 372 l. f. conc. hand rail, 1140 l. f. rein. conc. piling, removing old bridge.

Okla. Tulsa—Tulsa County Comsn. authorized S. K. McLellan, County Engr., to advertise for bids for 0.5 mi. paving road leading south from Sand Springs bridge, \$12,000.

S. C. Rock Hill—City, W. B. Goodman, City Mgr., widen Caldwell St. by 10 ft.

TENNESSEE—State Dept. of Highways & Public Works, R. H. Baker, Commr., Nashville, opens bids May 20 for 4 roads and bridge in following counties:

Roane—0.7 mi. grading, draining, paving, Highway No. 1, Rockwood;

Henderson-Decatur—5.5 mi. paving, Highway 20, between Darden and Parsons;

Jefferson—bridge over French Broad River between Dandridge and Newport;

Tipton—1.3 mi. grading, draining, between Covington and Hatchville River;

Davidson—paving short section of Highway 106, Nashville city limits toward Franklin.

Tennessee—State Dept. of Highways and Public Works, R. H. Baker, Commr., Nashville, immediately start work on 5.8 mi. Knox, Sevier and Blount counties, leading from Knoxville to Smoky Mountain National Park.

TEXAS—State Highway Comsn., Gilb christ, Highway Engr., Austin, plans 34 roads in following counties:

Crockett—12.978 mi. grading, draining, Highway 27, Live Oak Creek bridge to Bachelor Hill, FAP 619-C, Unit 1, \$148,700;

Bell—6.141 mi. grading, draining, Highway 2-B, 1/2 mi. north of Little River bridge to

intersect with present pavement, Highway 2-B, FAP 40, Reop., Unit 1, \$29,000;
Madison—5.525 mi. rein. conc. pavement, Bates type, 9-6-9, 20 ft. wide, Highway 21, North Zulch to point 1000 ft. east Navasota River, FAP 490-B, Unit 2, \$95,000;
Panola—6.414 mi. rein. conc. pavement (water cement ratio), Highway 8, Carthage southeast to Murville Creek, FAP 458, Unit 2, \$114,000;

Reeves—4.010 mi. grading, draining, Highway 3, Evans Creek to point 4 mi. west at end of FAP 274, SAP 437-B, Unit 1, \$16,900;
Hudspeth—7.196 mi. grading, draining, Highway 1, Lasca to Sierra Blanca, FAP 45-F, Unit 1, \$32,700;

Lipscomb—3.242 mi. grading, draining, Highway 4, Ochiltree County line to Hemp-hill County line, FAP 158-C, Unit 1, \$8,000;
Andrews—17.742 mi. triple asphalt surface treatment, Highway 137, Ector County line to Andrews, SAP 936-C, Unit 2, \$74,700;

Culberson—13.068 mi. crushed gravel base courses with triple asphalt surface treatment, Highway 1, joint 13 mi. east of Van Horn to Borah Sta., FAP 558-E, Unit 2, \$123,000;

Haskell—15.436 mi. rein. conc. pavement, 18 ft. wide, Bates type, 9-6-9, Highway 51, Knox County line to Rule, SAP 959-C, Unit 2, \$227,800;

Upshur-Gregg—9.719 mi. grading, draining, Highway 15, Big Sandy southeast to Glade-water, FAP 109-A & B, Unit 1, \$104,600;

Terrell—8.521 mi. grading, draining, Highway 3, east end FAP 324-C, at point 9.5 mi. east of Dryden and extending east, FAP 324 E, Unit 1, \$25,700;

Johnson—2.586 mi. triple asphalt surfacing on sledged or crusher run soft limestone base course, base 20 ft. wide, surface 18 ft. wide, 1½ in. thick, Highway 68, Ellis County line to point 1.7 mi. west of Venus, FAP 592-D, Unit 2, \$22,000;

Haskell—9.629 mi. grading, draining, Highway 120, Haskell to Rule, SAP 979-C, Unit 1, \$23,500;

McLennan—13.584 mi. 20-ft. rein. conc. paving, Bates type, 9-6-9, Highway 31, Waco northeast to Hill County, \$225,000;

Ellis-Kaufman—steel, conc. timber pile trestle bridge over Trinity River, Highway 34;

Colorado—11.558 mi. grading, draining, Highway 71, Altair to Columbus, SAP 945-C, Unit 1, \$50,000;

Dallas—1.336 mi. gravel surface course, Highway 121, Tarrant County to Denton County, SAP 774-D, Unit 2;

Reagan—18.627 mi. caliche and waterbound broken stone macadam base, 20 ft. wide, triple asphalt surface course 18-ft. wide, 12-9-12 in. thickness, Hwy. No. 99, Upton County to Big Lake; SAP 904-A; \$114,500;

Sinton—3.732 mi. conc. base with two course limestone rock asphalt surface course, Hwy. 19, La Fruita to Mathis, FAP 429-B; \$76,700;

Bunnels and Coleman—14.945 mi. caliche and waterbound broken stone macadam base 20 ft. wide, triple asphalt surface course 20 ft. wide, total thickness 9 in., Hwy. 23, Ballinger east to Talpa; FAP 600; \$275,000;

Reeves—12.734 mi. grading and drain. struc., Hwy. 17, Orla northwest to Culberson County; \$42,630;

Washington—11.434 mi. rein. conc., Bates type, 18-ft. wide (9-6-9), Highway 90, Washington to point 6 mi. east Brenham, SAP 740-B, Unit 2, \$175,000;

Val Verde—2.774 mi. grading, draining, Highway 3, point about 4700 ft. east of Devils River west 2.8 mi. to point 1000 ft. west of Castle Canyon, project to involve considerable rock excavation and bridges over 20 ft. span, FAP 212, Unit 1, \$70,300;

Kimble—steel, conc. and timber bridge, Highway 27 and 4, junction over Llano River;

Comal—conc. steel bridge over Guadalupe River, Highway 2, San Antonio-Austin Highway, new location; 12.157 mi. grading, draining, Highway 2, Austin-San Antonio Post road on new location, Guadalupe River, New Braunfels southwest to Guadalupe County line, FAP 68, Reop., Unit 1, \$56,400;

Coke—13.528 mi. grading, draining, Highway 10, Bronte to Tom Green County line, project to include large structures over 20-ft. span, SAP 459-D, Unit 1;

Childress—12.461 mi. rein. conc. pavement (water cement ratio), Highway 5, Childress northeast to Hardeman County line, FAP 333-A, Unit 2, \$230,000;

Ellis—6.239 mi. triple asphalt surface treatment, 18 ft. wide, on sledged soft limestone base course, 20 ft. wide, 9½ in. thick, Highway 68, Midlothian to Johnson County line, FAP 592-C, Unit 2, \$61,800;

Fisher—16.332 mi. gravel and crusher run broken stone base courses with double bitum. surface treatment, bases 22 ft. wide, surface 20 ft. wide, 10 in. thick, Highway 83, Roby west to Scurry County line, SAP 917-C, Unit 2, \$123,000;

Hemphill—5.938 mi. grading, draining, Highway 4, Lipscomb County line to Horse Creek bridge, FAP 158-A, Unit 1, \$33,000;

Madison—10.103 mi. lengthening culverts, widening bridges and Bates type rein. conc. pavement 9x9x6 in., 20 ft. width, Madisonville to point 1 mi. west of Midway, FAP 486-A, Units 1 and 2, \$197,800;

Lamb—3.747 mi. grading, draining, Highway 7, Bailey County line to point 3.5 mi. northwest of Sudan, FAP 503-D, \$67,000;

Cherokee—9.267 mi. iron ore top soil base course, Highway 43, east line Road Dist. No. 1 to Rusk County line, FAP 555-D, Unit 2, \$32,000;

Andrews—13.761 mi. grading, draining, Highway 137, Andrews northwest to Gaines County line, SAP 936-D, Unit 1, \$14,000.

Texas—State Highway Comsn., Magda Cuenod, Sec., to let contracts May 31 and June 1 instead of May 27 and 28; Gibb Gilchrist, Highway Engr. 5-5

Tex., Dallas—Dallas County, Chas. E. Gross, County Aud., opens bids May 16 for 4000 tons Oklahoma natural rock asphalt.

Tex., Dallas—City, Earl Goforth, Sec., ordered improving Josephine St., Worth to 466 ft. south, take bids later on 9-6-9 in. rein. conc. paving, 1½ in. asphaltic conc., fine and coarse mix, and 1½ in. limestone rock asphalt on 6-in. conc. base; O. H. Koch, Dir., Public Works.

Tex., Fort Worth—City, Geo. Fairtrace, City Mgr., has low bid from R. A. Hunter, 3341 Jennings St., for improving Texas and Macon Sts.; D. L. Lewis, Engr.

Tex., Longview—City, Witt Nelson, City Sec., let contract to F. P. McElwraith Construction Co., Corsicana, at 2.07 per sq. yd. for 13,000 sq. yd. 6-in. rein. conc. paving, E. Tyler Ave., S. Green St., N. Second and N. Sixth Sts.

VIRGINIA—State Highway Dept., H. G. Shirley, Commr., Richmond, Va., opens bids May 24 for projects in following counties:

Southampton—widening Franklin-Courtland road from 15 to 20 ft., Route 12;

Rockbridge—4 mi. surfacing, Route 14, north of Buena Vista to Lexington, alternates on 1-course macadam and conc.;

Nansemond—413-ft., movable span bridge, over Bennett's Creek, west of Churchland, on Route 503;

Russell and Washington—grading and draining, including widening Little Moccasin Creek bridge, Route 110, Abingdon to Hansonville;

Halifax—9.2 mi. soil road, including bridge over Lawson Creek, Route 44, South Boston to Tuberville;

Notaway—174-ft. bridge over Little Notaway River, Route 48, south of Blackstone;

Notaway and Lunenburg—254-ft. bridge over Notaway River, Route 48, south of Blackstone.

Va., Spotsylvania—War Dept., Fredericksburg & Spotsylvania County Battlefields Memorial Comsn., Fredericksburg, opens bids May 31 for 4.6 mi. earth road, Spotsylvania Court House, Clr. 19.

West Virginia—State Roads Comsn., Geo. E. White, Sec., Charleston, opens bids in June for additional highway work.

Contracts Awarded

Florida—State Road Dept., H. H. Wells, Chmn., Tallahassee, let contract to Cooney Eckstein & Co., Inc., Bisbee Bldg., Jacksonville, for untreated timber, Proj. 937, Levy County. 4-28

OKLAHOMA—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, let contracts for 5 roads and bridge in following counties:

Custer—7.8 mi. grading, draining, Highway 34, Kadane Construction Co., Frederick, \$25,107; 5 bridges on same stretch, J. W. Hopper, 706 W. 31st St., Oklahoma City, \$34,180; 4.8 mi. Highway 34, Kadane Construction Co., \$22,163;

Roger Mills—1.7 mi. grading, draining, Highway 34, Kadane Construction Co., \$4885; 2.9 mi. same highway, same firm, \$11,206;

Pontotoc—6.3 mi. paving, State Highway 19, Hyde Construction Co., Enid, \$121,314. 4-28

Tenn., Nashville—Davidson County let contract to Pan-American Petroleum Corp. of Tenn., Old Clifton Rd., for year's supply of road asphalt; for gravel to T. L. Herbert & Son, 174 Third Ave., N., for explosives to E. I. du Pont de Nemours & Co., Birmingham, Ala.

Tex., Abilene—Taylor County, Tom K. Epen, Judge, let contract to Dexter Construction Co., First Natl. Bk. Bldg., Dallas, at \$15.054, for approx. 15 mi. double bitum. surface treatment, Abilene-Buffalo Gap road.

Tex., Fort Worth—Tarrant County let contract to Texas Pacific Coal and Oil Co., Ft. Worth Natl. Bldg., at \$9.350 for year's supply of asphalt.

Tex., Galveston—Galveston County, I. Predecki, County Aud., let contract to Johnson Bros., Guaranty Bldg., for surfacing east end of Boulevard between Strand and Broadway. 4-28

Va., Bland—Bland County Supvrs. let contract to J. C. Ruggle, Rocky Gap, and A. N. Muncy, Bland, for road from southern end of Bland 2200 ft., 16 ft. wide.

Sewer Construction

Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

La., New Orleans—Bessemer Foundry & Machine Co., Bessemer, Ala., low bidder for Contr. 109-W, furnishing vertical screw pump; Chicago Bridge & Iron Works, Electric Bldg., Houston, Tex., for Contr. 126-D, furnishing, delivering and erecting 2 riveted steel discharge pipes for Sewerage and Water Bd.

Miss., Vicksburg—Mississippi Lumber Co., reported, has contract for pipe and Y's on City Cemetery Rd. 4-28

Tex., Dallas—W. E. Childers, 2906 Spurlock St., reported, has contract for storm sewers on 3 streets now being widened.

Tex., Dallas—P. C. Sorenson Co., Grand Rapids, Mich., low bidder at \$365,606 for sewer Mill Creek Dist. No. 12-C, Diversion via Bellevue St., from Browder St. to Trinity River; C. T. Baer, Engr., Drains and Structures. 4-28

Telephones and Radio

La., Kenner—Ole K. Olesen Co., 706 South-ern Bldg., New Orleans, has contract for struc. steel for 1 story brick transmitting station, Jefferson Highway near Kenner, for Loyola University; Gervais F. Favrot, Contr., 500 Balter Bldg., New Orleans. 4-28

N. C., Greensboro—Radio-Stage-Press-Features, Inc., capital \$50,000, incorporated; J. L. M. Smith, George A. Younce.

Va., Roanoke—Lee, Smith and Van Der-voort, Sixth & Franklin Sts., Richmond, Archts., preparing plans and specifications for building Luck Ave. and Third St. for Chesapeake and Potomac Telephone Co. of Virginia, 703 E. Grace St., Richmond; land, building and equipment involve expenditure of \$1,700,000; John T. Graff, Ch. Engr., Richmond. 5-5

Textile Mills

N. C., Burlington—R. T. Neville and R. D. Neville, Philadelphia, Pa., acquired full control of Ideal Mercerizing Co., processors of mercerized and gassed yarns; no additional building planned at this time nor any installation of new machinery.

S. C., Anderson—Anderson Cotton Mills, reported, receiving bids for remodeling building and new roof; Gallivan Construction Co., Greenville; Fiske-Carter Construction Co., Spartanburg; Townsend Lumber Co. and C. M. Guest & Son, both Anderson, estimating.

Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that Classification.

Ga., Manchester—A. K. Adams Co., 542 Plum St., N. W., Atlanta, reported, low bidder at \$13,263 for filtration plant, completion 77 days; Albert & Cato, Manchester, at \$13,294, completion 70 days; Wiedeman & Singleton, Engrs., Candler Bldg., Atlanta. 4-21

La., Kenner—Bd. of Commrs., East Jefferson Water Works Dist. No. 1, M. M. Jones, Sec., changed date of election from May 31 to June 7 on \$500,000 bonds for completing water works system and purchase of Jefferson Water Works Co. 4-28

La., Opelousas—City, R. L. Fields, City Clk., receives bids May 17 for 1 car load 4-in. Class B or Class 150, 16 ft. water main with necessary fittings, valves and fire hydrants.

Md., Baltimore—M. & J. B. McHugh, 3716 Sequoia Ave., low bidder at \$42,074 for furnishing and laying 36-in. water mains. 4-28

Md., Baltimore—Dept. of Public Works, Bureau of Water Supply, will have plans ready for bids May 18, due June 1 for 48-in. water mains York Rd. to University Pkwy.

Miss., Natchez—Chicago Bridge & Iron Works, Chicago, reported, has contract for stand pipe; capacity 600,000 gals. 4-14

Okla., Pawnee—C. S. Clark, Petroleum Bldg., Oklahoma City, has contract at \$122,733, for water supply project; work includes hand labor and trucks on earthwork and Class 100 c. i. pipe; W. R. Holway, Const. Engr., 302 E. 18th St., Tulsa. 4-14

S. C., Greenwood—City, Frank Chapman, Supt., plans \$16,000 water works; Wiedeman & Singleton, Engrs., Candler Bldg., Atlanta, Ga.

Tenn., Nashville—Bd. of Public Works authorized construction water main Wichita St. between Cowan and Texas Sts.; also construct 2 sewers Central Ave. and Richland Ave.

Tex., Dallas—Easterway Water Works Co., incorporated; P. B. Arrington, 4438 Westway St.

Va., Blacksburg—W. W. Gray, Blacksburg, reported, has contract for water line and holder in connection with new water supply from spring 2½ miles from city; \$35,000 bonds available. 3-17

FIRE DAMAGE

Ark., Heber Springs—Store of W. F. Haywood; loss \$10,000.

Ark., Paragould—Greene County Consolidated School No. 1, 5 mi. s. w. of Paragould; loss \$25,000.

Fla., Palm Beach—Barash Stores, Clematis St. and Dixie Highway.

Ga., Jewell—Residence of John Q. Gant.

Ky., Scottsville—Farmers Loose Leaf Warehouse, ½ mi. from Scottsville on Glasgow highway; loss \$70,000.

La., Shreveport—Biederharn Park, home of Shreveport Texas baseball league club; loss \$35,000.

Md., Baltimore—Plant of Carriage and Toy Co., 634 W. Pratt St.

Md., Gaithersburg—Dairy buildings on farm of W. Lawson King, Rockville-Gaithersburg Pike, near here; loss \$12,000.

BUILDING NEWS BUILDINGS PROPOSED

Association and Fraternal

Ala., Tuscaloosa—Holabird & Root, Archts., Comer Bldg., Birmingham, for Alpha Phi Sorority house, University of Alabama, reported, plans open market for general contract bids, about middle of May; 2-story and basement, brick veneer.

Fla., Ocala—Marion County Post, American Legion, Rowland Brooks, Commr., reported, plans erecting \$10,000 American Legion home; Frank A. Parzaille drawing plans; 1-story building, auditorium, stage and dance hall.

Ga., Austell—See City and County.

Churches

Ala., Montgomery—Clayton St. Methodist Church, Rev. James E. Tate, Pastor, reported, plans new Sunday school building; A. B. Moore, Building Comm.

D. C., Washington—M. Frank Ruppert, 1021 Seventh St., N. W., has permit, 1-story brick church, 2030 Georgia Ave., N. W.; cost \$10,000.

Ga., Atlanta—Bethany Methodist Church, S. H. Dixon, pastor, 10 N. Elizabeth Place, reported, erect church and Sunday school building, 2-stories and basement, 85x45 conc. foundations, frame walls, brick exterior, comp. roof, hot air heating, wood floors; C. M. Stovall, Chrmn. Bldg. Comm.; Daniel & Beutell, Archts., 701 Georgia Savings Bank Bldg.

N. C., Shelby—Dr. E. C. Cooper, Kings Mountain, reported, announced construction will start this summer, on Lutheran Church, Marietta and N. LaFayette Sts.; brick, 33x77; cost \$10,000.

Tex., Mission—Christian Science Church, reported, will be built on lot, North Lomita Blvd. and 14th St.; brick and stucco building.

Va., Clarendon—Clarendon M. E. Church South, reported, plans ready for bids, about 60 days; 2-story building; rubble stone, marble, cinder block, 75x150, slag and slate roof, vapor heat; Jos. A. Parks, Archt., 1116 Ver-

Miss., Bay St. Louis—Garage building owned by Chris Reuter, 2523 Esplanade St., New Orleans, and occupied by A. J. Surdich.

Miss., Ellisville—Grisham Hotel; Mrs. R. N. Grisham, owner.

Miss., Gulfport—West pier, \$150,000 loss by Illinois Central R. R. Co., A. F. Plaess, Ch. Engr., Chicago, Ill., Coastwise Fruit and Steamship Co., and Gulfport Chamber of Commerce.

Miss., Ocean Springs—Pines Hotel, Mrs. V. Levy, East Howard Ave., Biloxi, owner, F. H. Bottenfield, Chicago, lessee; loss \$10,000.

Miss., Leland—Barn of McGee Dean Co.'s Perce plantation; loss \$20,000.

Mo., Moberly—G. A. Smith's garage; loss \$12,000.

N. C., Gastonia—Warehouse on E. Long Ave. owned by American Cotton Mills.

N. C., Selma—Residence of Charles A. Jacobs.

N. C., Sylvia—Summer home of General Wade Hampton and Hampton Inn; loss \$75,000.

Okla., Lawton—Stores of Tague Lucas Hardware Co., and Wolverton Electric Co.; loss \$20,000.

Okla., Woodward—W. Y. Wiley Hardware Store, Lingo-Leeper Lumber Yard and Sam Pearce's blacksmith shop; loss \$20,000.

Tenn., Greeneville—Bernard's Tobacco Warehouse No. 2, W. W. Bernard, Pres. of Company; loss \$140,000.

Tex., Ennis—Five brick business buildings of H. B. Romick, loss \$15,000; Park's Dairy, loss \$12,500.

Tex., Houston—Apartment building, 601 Calhoun St., owned by J. R. Parks, 516 Hathaway.

Tex., Ponder—Country residence of Charles Wakefield in Ponder community; loss \$12,000.

Va., Culpeper—Power and ice plant of Virginia Public Service Co., Charlottesville; loss \$75,000.

W. Va., Elkins—Elkins Cash Grocery Co. store, Charles Ritter, Mgr.; loss \$10,000 to \$15,000.

mont Ave., N. W., Washington; C. M. Lindner, Asso. Archt., State Planters Bank Bldg., Richmond, Va.

City and County

Ga., Austell—City, Dr. L. G. Garrett, Mayor, reported, erect city hall and Masonic lodge building; 2-stories and basement, 35x70, conc. foundations, brick walls, frame construction, comp. roof, wood floors; T. L. Clarke, Supt., in charge of construction; Chas. H. Hopson, Archt., Healey Bldg., Atlanta.

La., New Orleans—City Commr. of Public Property Skelly, reported, authorized calling for new bids on proposed \$250,000 2 and 3-story rein. conc. brick, steel, stone trim and fireproof Touro Shakespeare Almshouse on General Myers Ave.; 200x100 ft., chapel dormitory, kitchen, refectory; rein. conc. foundation, stone, steel and iron work, steel sash, fire doors, plastered interior, glazing, built-up comp. and tile roof, plumbing, heating, electric wiring, paving, drains, fireproof slabs, interior tile partitions, ornate plastering, marble and tile work, millwork, finished hardware, church furniture and landscaping; Wm. R. Burk, Archt., Balter Bldg. 11-26

Tex., Austin—City, Adam R. Johnson, City Mgr., opens bids May 18, library building, W. 9th St., between Guadalupe & San Antonio Sts.; natural stone, rein. conc., frame, fir slabs and columns, 2 stories, 195x68, irregular shaped, ornamental plaster ceilings, rubber tile, terrazzo floors, metal lath and plaster interior walls, metal sash and windows, bonded comp. roof, heating, plumbing and wiring; cost \$130,000. Following estimating: General—J. C. Worcester, 205 E. 35th St.; J. J. Wattinger, 807 W. Gibson St.; H. E. Wattinger, 401 Paul St.; J. F. Johnson, 509 E. 3rd St.; C. W. Moore, 609 W. 16th St.; A. A. Mundt, 503 Bowie St.; J. R. Blackmore, 1501 W. 9th St.; Byrdson Bros., 19th and Guadalupe Sts.; Schwarzer & Lorey, 611 Baylor St.; C. E. Spurlin, 106 E. Live Oak St.; M. M. Odum, 307 W. 8th St.; Frank Rundell, 409 Fannin St. Mechanical, heating, plumbing and wiring; Fox-Schmidt Co., 412

W. 5th St.; J. O. Andrewartha, 103 E. 9th St.; John L. Martin, 410 Congress Ave.; Loden & Beesley, 502 E. 6th St.; plumbing, Harper & Linscomb, 915 Congress Ave.; heating and plumbing, John Wattinger, 3805 Ave. H; wiring, G. H. Seales, 3410 Pratt St.

Dwellings

D. C., Washington—Donnelly & Plant, 1374 Park Rd., reported, taking general and sub bids, ten 2-story brick residences, Sheridan St., near 14th St.; slate and tin roof, hot water heat; F. G. Wilcox, Archt., Insurance Bldg.

D. C., Washington—L. W. Bailey, 216 17th St., N. E., has permit 1-story frame dwelling, 2411 Thirty-second St., S. E.

Ga., Atlanta—Mrs. G. Arthur Howell, 1869 Peachtree Rd., has low bid, from Gilbert Beers, Bona Allen Bldg., \$37,630, for residence, Paces Perry Road; Cooper & Cooper, Archt., Forsyth Bldg.

La., Shreveport—Dr. Pope W. Oden, Medical Arts Bldg., has low bid, new residence; K. C. Wilson, Contr., Slattery Bldg.; \$18,799; garage, \$1254; Jones, Roessle, Olschener & Wiener, Archts., Ardis Bldg.

Md., Baltimore—Louis Moeller, care Anderson & Ireland, 111 Light St., plans 2-story frame dwelling, 5205 Gwynn Oak Ave.

Md., Baltimore—Talbot & Boschert, Inc., reported, plan four 2-story brick dwellings with garages, 6410-16 Sefton Ave.; cost \$10,000.

Md., Elkridge, Baltimore—C. A. Geatty, National Lead Co., 214 W. Henrietta St., Baltimore, plans ready for bids, about June 1, rebuild burned residence, Lawyers Hill.

Md., Woodlawn, Baltimore—St. James Evangelical Lutheran Church, Rockdale, taking bids 2½-story and basement stone and veneer parsonage; 25x39. Following estimating: Fred W. Dettmer, Windsor Mill Road; E. W. Marriott; Wm. E. Riddle, all Woodlawn; John Greenwald, Randallstown; Jos. Ritter, Jr., 5511 Hilltop Ave.; Adam Kratz & Son, 118 S. Carrollton Ave.; Avon Construction Co., 216 E. Lexington St., all Baltimore, Md. John Freund, Archt., 1307 St. Paul St., Baltimore.

Mo., University City, St. Louis—Edward Ahern, 3620 Clarke St., has permit 2-story dwelling, 7328 Cornell St.; tile roof, rubble foundation, hot water heat; Gershard & Becker, Archt., Ferguson, Mo.

N. C., Winston-Salem—A. L. Butner, has permit, \$18,000 residence, north side Arbor Road, between Stratford and Kent Roads.

Okla., Pryor—Manhattan Construction Co., Philcade Bldg., Tulsa, low bidder, remodeling 8 cottages, Whittaker State Orphans' home, cost \$12,000; A. J. Love & Co., Archts., Tulsa; rejected bids; postponed work indefinitely. 5-5

Government and State

Ala., Auburn—Treasury Dept., Jas. A. Wetmore, Act. Supvy. Archt., Washington, has low bid foundation, U. S. post office, Samford Bros., 301 Washington Ave., Montgomery. 4-28

Ala., Maxfield Field, Montgomery—Office Constructing Quartermaster, Capt. M. A. McFadden, Maxwell Field, opens bids May 31, constructing 7 standard magazines; cost \$15,000.

Ark.-Tex., Texarkana—Following prospective estimators, lighting fixtures, U. S. post office, bids open May 23: North Side Pattern & Foundry Co., 3916 Colerain Ave., Cincinnati, Ohio; Michaels Art Bronze Co., 241 Court Ave., Covington, Ky.; F. K. Enzor, 238 Fourth St., Columbus, Ohio; Shapiro & Aronson, 20 Warren St.; Cassidy Co. Inc., 101 Park Ave.; Conrad Schmidt Studios, 11 W. 42nd St., all New York; Zenith Electric Co., 620 Manide St., Bronx, New York; Gill Glass & Fixture Co., 122 W. Baltimore St.; Blumenthal-Kahn Co., 518 N. Charles St., both Baltimore, Md.; Ivanhoe Division of the Miller Co., Meriden, Conn.; Hiram, Inc., 730 N. Jackson St.; Moe-Bridges Co., 236 Broadway, both Milwaukee, Wis.; Kayline Co., 600 Huron road, Cleveland, Ohio; F. W. Wakefield Brass Co., Vermillion, Ohio; Edwin F. Guth Co., Jefferson and Washington Aves., St. Louis, Mo.; Frankford Lighting Co., 4273 Frankford Ave., Philadelphia, Pa.; Michigan Chandelier Co., 3130 Chene St., Detroit, Mich.; Maier Electric Co., 213 E. Hennepin St., Minneapolis, Minn.; Chas. Klimick-Frink Corp., Long Island City, N. Y.; Curtis Lighting Co., 1123 W. Jackson Blvd., Chicago, Ill. 5-5

D. C., Washington—Following prospective estimators, Department of Justice Bldg., bids open May 31: Welmouth-Crowell Co., 2104 E. 15th St.; L. E. Dixon Co., 609 S. Grand Ave., both Los Angeles, Calif.; S. M. Selsel Co., 514 Ogden Ave., Milwaukee, Wis.; James Stewart & Co., Inc., 230 Park Ave.; Seglin Construction Co., 60 E. 42nd St.; Aronberg-Fried Co., 155 E. 44th St., all New

York; Geo. A. Fuller Co., Munsey Bldg., Washington, 5th St. and Madison Ave., New York, and 11 S. Washington St., Chicago, Ill.; Connec Construction Co., Munsey Bldg.; Geo. E. Wyne, 2539 Pennsylvania Ave.; R. P. Whitty Co., Denrike Bldg., all Washington, D. C.; Henry E. Baton, 1713 Sanson St., Philadelphia, Pa.; John W. Cowper Co., Rand Bldg., Buffalo, N. Y., and National Press Bldg., Washington; Consolidated Engineering Co., St. Paul and Franklin Sts., Baltimore, Md.; Jas. I. Barnes, Logansport, Ind.; John Griffiths Construction Co., 228 N. La Salle St.; Samuel Olson & Co., 1288 N. Koestner Ave., both Chicago, Ill.; Geo. F. Driscoll Co., 548 Union St., Brooklyn, N. Y.; Starrett Bros. & Eken, Empire State Bldg., New York, and 1300 B St., S. W., Washington; Ed. J. Spiesbach & Co., 1200 Cleveland Ave., East St. Louis, Ill. 4-28

D. C., Washington—Following additional estimators, U. S. post office Department Bldg., bids open May 23: Skinker & Garrett, 1719 Eye St., N. W.; Wm. P. Lipscomb Co., District National Bank Bldg.; Frederick L. Cranford, 9th St. and Constitution Ave.; W. E. Mooney Co., 2539 Pa. Ave., N. W.; Rust Engineering Co., Dist. Natl Bank Bldg.; H. W. Cord Co., 1003 K St., N. W.; Starrett Bros., 4120 14th St., N. W., all Washington; N. P. Severin, 222 W. Adams St.; Jacobson Bros., 19 S. La Salle St.; Great Lakes Construction Co., 333 N. Michigan Ave., all Chicago, Ill.; George F. Driscoll Co., 548 Union St., Brooklyn, N. Y.; John McShain, 1610 North St., Philadelphia, Pa.; Fred W. Klesner, 622 Broadway, Cincinnati, Ohio; Auf der Heide Contracting Co., 530 Jackson St., West New York, N. J.; Deglin Construction Co., 60 E. 42d St.; Cauldwell-Wingate Co., 101 Park Ave., both New York; Edw. J. Spiesbach & Co., 1200 Cleveland Ave., East St. Louis, Ill.; Wm. Jackson, 65 W. 38th St., Bayonne, N. J.; Elevators—Delano & Aldrich, 126 E. 32d St., New York; S. Heller Elevator Co., Milwaukee, Wis.; Gurney Elevator Co., Southern Bldg., Washington and 109 W. 64th St., New York; A. B. See Elevator Co., Inc., 1343 H St., N. W.; Houghton Elevator & Machine Co., Vermont Bldg.; Otis Elevator Co., 810 18th St., N. W., all Washington; Elevator Locks Co., 119 N. Washington St., Peoria, Ill.; Westinghouse Electric Elevator Co., 30th and Walnut Sts., Philadelphia, Pa.; General Electric Co., Schenectady, N. Y.; American Elevator & Machinery Co., 500 E. Main St., Louisville, Ky.; Wm. A. Miller Elevator & Machinery Co., 920 N. Main St., St. Louis, Mo.; Elevator Supplies Co., 1515 Willow Ave., Hoboken, N. J. 4-28

D. C., Washington—Following additional prospective estimators, Interstate Commerce Comsn. and Labor Bldg., bids open May 16: General Construction—Frank G. English & Son, 1606 N. Carlisle St.; John McShain, 1610 North St., both Philadelphia, Pa.; MacDonald & Kahn Co., Financial Center Bldg., San Francisco, Calif.; Fleisher Engineering & Construction Co., Wrigley Bldg.; Jacobsen Bros. Co., 19 S. La Salle St.; Great Lakes Construction Co., 333 N. Michigan Ave.; C. A. Moses Construction Co., 176 W. Adams St., all Chicago, Ill.; Kenny Bros., 302 Dyckman St.; Cauldwell-Wingate Co., 101 Park Ave., both New York; John Gill & Sons Co., Bulkeley Bldg., Cleveland, Ohio; Ed. J. Spiesbach & Co., 1200 Cleveland Ave., East St. Louis, Ill.; Frederick L. Cranford, 9th and Constitution Ave., Arthur M. Poyntot Co., Chandler Bldg.; Arthur L. Smith & Co., 2539 Pennsylvania Ave., all Washington; Geo. F. Driscoll Co., 548 Union St., Brooklyn, N. Y.; Richards-Wilcox Mfg. Co., Aurora, Ill.; Elevator Supplies Co., 1515 Willow Ave., Hoboken, N. J.; Elevators—Warner Elevator Mfg. Co., 2159 E. 18th St., Cincinnati, Ohio; General Electric Co., Schenectady, N. Y. 5-5

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., has low bid. Aronberg-Fried Co., 21 E. 40th St., New York, \$5,295,000, limestone, Department of Agriculture Extensible Bldg. 4-14

Fla., Daytona Beach—Following prospective estimators, U. S. post office, bids open May 17: York Construction Co., Odd Fellows Bldg., Raleigh, N. C.; D. T. Underwood, Lincoln Life Bldg., Birmingham, Ala.; St. John Co., Box 436, Miami, Fla.; Watt & Sinclair, 256 North Ave., Palm Beach, Fla.; Algernon Blair, First Natl. Bank Bldg.; Upchurch Construction Co., Bell Bldg., both Montgomery, Ala.; Bahen & Wright, 916 Rhode Island Ave., N. E., Washington, D. C.; James I. Barnes, Box 312, Springfield, Ohio; J. S. McCauley Co., Bona Allen Bldg.; Norwood-Griffin Co., Bona Allen Bldg.; Smith-Pew Construction Co., 435 Irwin St.; Grahn Construction Co., Red Rock Bldg.; Southern-Ferro Concrete Co., all Atlanta, Ga.; Worsham Bros., Medical Arts Bldg., Knoxville, Tenn.; Alex W. Hermann, 414 Butler Blvd.; Fuquay & Gheen, 130 Broadway, both Daytona Beach; R. K. Steward & Son, High Point, N. C.; J. A. Jones Construction Co., Commercial Bk. Bldg., Charlotte, N. C.; Rosen &

Fischel, 11 S. La Salle St., Chicago, Ill.; George D. Aughter Co., 600 E. 4th St., Jacksonville, Fla.; Ed. S. Moore & Son, Kokomo, Ind.; James Peterson Construction Co., Orlando, Fla.; Newman Bros. Construction Co., Norwood, Ohio; James McHugh Sons, 840 W. 70th St., Chicago, Ill.; Olaf Otto, Arcade Bldg., Savannah, Ga.; R. F. Farnsworth & Co., Inc., Maritime Bldg., New Orleans, La.; Virginia Engineering Co., First National Bk. Bldg., Newport News, Va.; Andrew Christensen, 80 Broad St., Elizabeth, N. J.; Thierault Contracting Co., 534 E. Johnson St., Philadelphia, Pa. 5-5

Fla., Jacksonville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, has low bid, foundations, U. S. court house, J. A. Jones Construction Co., Commercial Bk. Bldg., Charlotte, N. C. \$41,644. 4-21

Fla., Palm Beach—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, opens bids June 2, U. S. post office; total cost \$200,000.

Contractors, sub-contractors and suppliers of materials are urged to join in helping to stabilize the construction industry. Use the following label on all bids—It has the approval of responsible concerns:

IMPORTANT NOTICE
THIS IS OUR ROCK
BOTTOM BID. IT IS NOT
PADDED AND WILL NOT
STAND A CUT.

La., Barksdale Field, Shreveport—Capt. Geo. E. Lamb, Const. Quartermaster, Barksdale Field, has low bid, Kane Manufacturing Co., Kane, Pa., \$21,008, wood and metal screens, all buildings, Barksdale Field. 4-28

Miss., Meridian—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, has low bid U. S. post office, Ralph Sollitt & Sons Construction Co., South Bend, Ind., marble, \$372,000, limestone, \$314,000; elevator, Westinghouse Electric Elevator Co., 20 N. Wacker Dr., Chicago, Ill., \$12,768. 4-28

Mo., Jefferson City—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, opens bids May 26, \$600,000 U. S. post office and court house; Egerton Swartwout, 10 E. 40th St., New York, and Klipstein & Rathmann, 316 N. Eight St., St. Louis, Archts. 2-4

Mo., St. Louis—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, has low bid, excavations and foundations, U. S. courthouse, Samuel Kraus Co., 645 Edmund St., St. Louis, \$98,440. 2-28

N. C., Hudson—State Highway Comsn., Raleigh, reported, authorized purchase of 32-acre site near Hudson for prison camp for Caldwell County; est. cost \$18,000.

N. C., New Bern—Constructing Quartermaster, Fort McPherson, Atlanta, Ga., opens bids May 16, constructing service building and remodeling lodge.

Tenn., Knoxville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, has low bid, elevator plant U. S. post office, American Elevator & Machine Co., 500 E. Main St., Louisville, Ky., \$22,242. 5-5

Tenn., Tallahoma—U. S. property and disbursing officer, Militia Bureau, Nashville, opens bids May 21 infirmary building.

Va., Cape Charles—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, opens bids June 3, U. S. post office.

Hospitals, Sanitoriums, Etc.

Ark., Fayetteville—Veterans Administration, W. R. Metz, Act. Ch. Technical Div., Construction Service, Arlington Bldg., Washington, announces plans on market May 14, bids to be opened June 21, furnishing all labor and materials and performing all work, Veterans Administration Hospital buildings and utilities; est. cost \$1,000,000; excavation,

roads, walks, grading and drainage, rein. conc., hollow tile, brick work, cut stone, architectural terra cotta, slate stair treads, marble work, terrazzo, floor and wall tile, rubber tile, compressed asphalt tile and linoleum floors, iron work, structural steel construction, flagpole, steel sash, steel stairs, steel shelving, cabinets and partitions, shingle tile, metal and built-up roofing, lighting conductors, skylights, roof ventilators, metal lathing, plastering, sound deadening, carpentry, metal weatherstrips, insect screens, platform scales, dumbwaiter, painting, glazing, hardware, plumbing, steel water tank and tower, refrigerating and ice making plant, radial brick chimney, heating and ventilating, electrical work, electric elevators and outside distribution systems and other items as shown or specified. Separate bids received on (A) general construction, including radial brick chimney; (B) plumbing, heating, electrical work; (C) electric elevators; (D) steel water tank and tower; (E) refrigerating and ice making plant. 12-31

D. C., Washington—Following prospective estimators, male receiving building, St. Elizabeths Hospital, bids open May 31: General Contract—National Construction Co., Tower Bldg.; Geo. Hyman Construction Co., Seventh and T Sts., N. E.; H. W. Cord Co., 1003 K St., N. W.; Geo. E. Wyne, 2539 Pennsylvania Ave., N. W.; Arthur L. Smith & Co., 2539 Pennsylvania Ave., N. W., all Washington; Chas. Shurtrump & Sons Co., 1900 Euclid Ave., Cleveland, Ohio; Northeastern Construction Co., 6 W. Madison St., Baltimore, Md.; Ralph S. Herzog, 10 S. 18th St., Philadelphia, Pa.; MacDonald-Spencer Engineering Co., Graybar Bldg., New York; W. E. O'Neil Construction Co., 2751 Clybourne Ave., Chicago, Ill.; Elevators—Westinghouse Electric Elevator Co., 30th and Walnut Sts., Philadelphia, Pa.; Houghton Elevator & Machine Co., Toledo, Ohio. Plumbing and heating—D. C. Engineering Co., 1400 Spring Rd., N. W., Washington; Burns-Lane Richardson Co., 301 Burnet St., New Brunswick, N. J. 4-28

Md., Glendale—Following additional prospective estimators, nurses home, sanatorium and refrigeration bldg., Children's Tuberculosis Sanatorium, Buena Vista, near Glen Dale, bids open June 2: H. W. Cord Co., 1003 K St., N. W.; H. R. Blagg Co., New Jersey Ave. and C St., N. W., both Washington; Consolidated Engineering Co., St. Paul and Franklin Sts.; Tase-Norris Co., 903 Cathedral St., both Baltimore, Md.; Samuel B. Dove, 597 West St., Annapolis, Md.; W. E. O'Neil Construction Co., 2751 Clybourne Ave., Chicago, Ill.; Prescott-White Corp., 118 E. 28th St., New York; W. P. Rose Co., Goldsboro, N. C., and Box 1522, Washington; Virginia Engineering Co., Newport News, Va. 5-5

Md., Baltimore—City of Baltimore, Bureau of Buildings, Wm. A. Parr, Engr., Municipal Bldg., has low bid from J. Henry Miller, Inc., Miller Bldg., Eutaw and Franklin Sts., at \$847,700, to erect general hospital building for City Hospitals; Palmer & Lamdin, Archts., 513 N. Charles St.; Van Rensselaer Saxe, Struc. Engr., 217 N. Calvert St.; Reeder, Elser & Akers, Mech. Engrs., 916 N. Charles St. 4-21

N. C., Brevard—Dr. Charles Newland, Brevard, and Dr. C. E. Cunningham, Atlanta, Ga., reported, contemplating establishing hospital.

Hotels and Apartments

Fla., Belle Glade—H. Phillips Clark, Archt., West Palm Beach, submitted tentative plans to Chamber of Commerce, 50 room hotel building.

Tex., Galveston—A. B. Bataglia, 1401 G St., has permit, brick veneer and hollow tile store and apartment building.

Miscellaneous

Miss., Hattiesburg—Glendale Community Club, T. C. Hobby, Pres., reported, plans erecting community club building.

Tex., Houston—Houston City Athletic Club, Rev. William States Jacobs, Co-Dir., 918 Main St., reported, purchased Milam Bldg., Milam and Texas Sts.; plans remodeling.

Schools

Ga., Alma—Bacon County, Bd. of Education, selected Dennis & Dennis, Archts., 556 Mulberry St., Macon, Ga., for 10-room and auditorium school building; cost \$18,000; conc. foundation, brick walls, comp. roof, wood floors.

Ga., Atlanta—Fulton County, Bd. of Education, Jere Wells, Supt., Courthouse, opens bids May 24, Benteen School; cost \$12,500; Thornton Marye, Archt., Walton Bldg., Atlanta. 4-14

Fla., Pensacola—Escambia County School Comms., William Tyler, Supt. of Public Instruction, reported, will call for bids for schools at Sunshine Hill and Bluff Springs; cost \$15,000.

Ga., Hapeville—Fulton County, Bd. of Education, Jere Well, Supt., Courthouse, Atlanta, opens bids May 24, 3 school buildings and 2 additions to present bldgs.: Owensville, addition, 2-classrooms, toilet and assembly room, frame, 2-story; Severna Park, brick, 2-story, 6 rooms; Odenton, addition, brick, 2-classrooms, assembly hall and cafeteria; Mt. Zion, high school, brick, 2-story; Ferndale, brick, 1-story; W. H. Emory, Jr., Baltimore Trust Bldg. and Bulkley & Fenhagen, 325 N. Charles St., Baltimore, Asso. Archts., James Posey, Baltimore Trust Bldg., Baltimore, Mech. Engr., high school Mt. Zion. 4-14

Md., Annapolis—Anne Arundel County School Comms., Geo. Fox, Sec., Annapolis, opens bids May 24, 3 school buildings and 2 additions to present bldgs.: Owensville, addition, 2-classrooms, toilet and assembly room, frame, 2-story; Severna Park, brick, 2-story, 6 rooms; Odenton, addition, brick, 2-classrooms, assembly hall and cafeteria; Mt. Zion, high school, brick, 2-story; Ferndale, brick, 1-story; W. H. Emory, Jr., Baltimore Trust Bldg. and Bulkley & Fenhagen, 325 N. Charles St., Baltimore, Asso. Archts., James Posey, Baltimore Trust Bldg., Baltimore, Mech. Engr., high school Mt. Zion. 4-21

Miss., Meridian—Lauderdale County Bd. of Supvrs. voted bonds, rebuild and equip Long Creek school house recently destroyed by fire.

Okla., Muskogee—Baseone, College, Dr. B. D. Week, Pres., reported, announced construction start June 1, 5 new buildings: art lodge, home demonstration building, industrial arts building, elementary school building and boys dormitory; expend approximately \$130,000. 12-10

Okla., Stillwater—Layton, Hicks & Forsyth, Archts., Braniff Bldg., Oklahoma City, drawing plans, 2-dormitories, Oklahoma Agricultural & Mechanical College; cost \$225,000; brick, stone, steel and rein. conc., 3-stories.

S. C., Abbeville—Bd. of Trustees, T. M. Cheatham, Chrmn., Poplar Grove Negro School, reported, supervise remodeling of school building.

Tex., Raymondville—Willacy County, Paso Real and La Jarita Consolidated School Dist. votes soon on \$15,000 school building bonds.

Va., Chesterfield—School Bd., Chester-

field County, T. C. Williams, Supt. of School, Chester, plans school bldg. with auditorium; fireproof construction, 2 stories; Director of School Bldg., State Board of Education, 5th floor, State Office Bldg., Richmond, Va., has plans.

Stores

Ala., Birmingham—Warren-Knight & Davis, Archts., Protective Life Bldg., handling part of architectural work for proposed store building, Burger-Phillips Co., Louis Phillips, Pres., 2013 Second Ave., N.; Miller & Martin, Archts., Title Guarantee Bldg.; J. A. Lewis, Title Guarantee Bldg., Engr. 4-28

Md., Baltimore—Goldenberg, Inc., 601 S. Broadway, plans 2-story brick store bldg., 5508 Harford Rd., cost \$10,000, James R. Cox, Archt., 4518 Arabia Ave. 4-21

Tenn., Chattanooga—R. H. Hunt Co., Archts., First Natl. Bank Bldg., reported, receiving bids May 15, \$75,000 store building, Sears, Roebuck Co.; 2-stories and basement, 50x200; rein. conc. and brick.

Tex., Houston—S. H. Kress & Co., 114 Fifth Ave., New York City, has permit, remodeling front of building Capitol Ave. and Main St.; cost \$10,000.

Tex., San Antonio—Charles M. Bushick, Sec., Nix Professional Bldg. Corp., reported, announced \$40,000 will be expended remodeling store fronts of buildings, west side of N. St. Mary's St., south of Houston St.; Phelps & Dewees, Archts., Gunter Bldg.

Theatres

Ga., Atlanta—Loew's Theatre & Realty Corp., Loew Bldg., 45th St. & Broadway, New York, reported, plans general interior changes, Loew's Grant Theatre, 113 Pryor St.; cost \$250,000; remove boxes, change balcony, install steel trusses; receive bids about May 26, Thos. W. Lamb, Archt., 701 7th Ave., New York. 3-24

Miss., Pontotoc—J. A. D. Herrington, manager for new theatre to be opened here, reported, announced new equipment will be installed; R. C. Guthrie, owner of building.

BUILDING CONTRACTS AWARDED

Association and Fraternal

S. C., Florence—Southern Builders, Inc., Florence, has contract, Masonic Temple building; 3-stories, conc. foundations, brick, steel, comp. roof; Wilkins & Hopkins, Archts.

Churches

D. C., Georgetown, Washington—Christ Church, 31st and O Sts., reported, let contract W. E. Mooney Co., 2539 Pennsylvania Ave., 2-story brick addition, parish house; 26x55, brick, stone trim, slag and metal roof, steel and orna. iron, steam heat, electric wiring, plumbing; Smith & Edwards, Archts., 1707 I St.

Fla., Gainesville—Winston and Penney, Contrs., reported, have contract for parsonage, Methodist Church, corner E. Main and Columbia Sts.

Ky., Lexington—Ashland Ave. Baptist Church has permit \$13,000 Sunday school addition; 2-story on stone foundation; Combs Lumber Co., Contr., 439 E. Main St.; Clarence E. Smith, Archt.

Miss., Senatobia—Methodist Church, Rev. Pat Luter, pastor, let contract rebuilding 2-story brick church, Sealy Construction Co., including plumbing and electric wiring; Walker & Shelton, 252 Poplar Ave., Memphis, Tenn., have heating contract; Edward B. Phillips, Archt., Fidelity Bank Bldg., Memphis, Tenn.

Mo., University City, St. Louis—St. Andrews Lutheran Church, 6746 Etzel St., reported, let contract, George Moeller, 3520 Itaska St., \$30,000, 1-story brick church 48x86, slate roof, conc. foundations, steam heat; Hoener Baum & Froese, Archt., Grand & Laclede Sts., St. Louis.

S. C., Greenville—Monaghan Baptist Church, Pelzer & Ravenel Sts., Rev. S. W. Jolly, pastor, let contract, J. F. Weiborn Lumber Co., 221 Pendleton St., \$11,117, new building; J. G. Cunningham, Archt., 201-A East Coffee St.

City and County

Fla., Jasper—Hamilton County Comms., let contract remodeling courthouse, Bland & Foster, Live Oak, Fla., \$14,485; brick work, wood joist, conc. slab work, wood and cement floors; Mark V. Sheftall, Archt., Clark Bldg., Jacksonville, Fla.

La., New Orleans—Edward Frederick, Inc., San Antonio, Tex., has contract, furnishing

and installing show cases and refrigeration equipment St. Bernard and Jefferson Markets; Sam Stone, Jr. & Co., Masonic Temple Bldg., Archts. 4-28

La., New Orleans—Sam Gaiennie, New Orleans, has plumbing contract, alterations and repairs, Jefferson Market; H. W. Bond & Bro., Gen. Contrs., 816 Howard Ave.; Sam Stone, Jr. & Co., Archts., Masonic Temple Bldg. 4-28

Miss., Monticello—Lawrence County Comms., let contract, Stuart C. Irby Co., 120 N. Congress St., Jackson, lighting fixtures, courthouse; McArthur & McLeomore, 611 22nd St., Meridian, Gen. Contrs.

Tenn., Tazewell—Claiborne County Comms., reported, let contract, V. L. Nicholson & Co., 611 S. Central Ave., Knoxville, \$67,615, courthouse and jail; 3-stories and basement, 98x103, plain and rein. brick and tile walls, steel, gypsum part, Indiana limestone, steel sash, comp. and slate roof, interior marble, steam heat; Baumann & Baumann, Archts., 813½ Market St., Knoxville, Tenn. 4-28

Tex., Longview—Electric Shop, Longview, has electrical wiring contract, Gregg County court house bldg.; C. S. Lambie & Co., Amarillo, Gen. Contr. 4-21

Dwellings

D. C., Washington—Earl L. Warren, Tower Bldg., has permit, five 2-story brick dwellings, 4920-28 Third St., N. W., cost \$25,000.

D. C., Washington—Paul T. Stone, Inc., 1427 I St., N. W., has permit two 2-story brick and frame dwellings, 6427 and 6431 Utah Ave., N. W.; cost \$13,000.

D. C., Washington—Columbia Construction Co., Ninth & Dahlia Sts., N. W., has permit 1½-story masonry residence, 2714 Military road, N. W.

Fla., Miami Beach—C. W. Harrison let contract Harry H. Sayle, 1150 Collins Ave., stucco bungalow, 716 Michigan Ave.; C. B. Schoeppl, Archt., 528 Lincoln Rd., Miami Beach.

Fla., Miami—John J. Koubek, 2705 S. W. 3rd St., let contract 2-story residence, Gunn & Goll, 69 N. E. 36th St., \$12,000; conc. rein. and conc. block; Robert L. Weed, Archt., 2620 Biscayne Blvd. 5-5

Ga., Thomaston—Paul Johnson Lumber Co. has contract, 20 mill cottages for B. F. Goodrich Tire & Rubber Co., 1-story, 4 rooms,

brick piers and chimneys, frame walls, comp. roof; cost \$20,000. Frank Binford, Archt. and Engr.

La., Shreveport—Mrs. J. B. Adkins has permit 1-story frame stucco residence, 231 Gladstone Blvd.; J. Stewart Smith, Bldr., Slattery Bldg.

Md., Baltimore—John H. Otto, Henry Ave., Fullerton, has permit, four 1½ story frame dwellings and garages, 2713-18 Bayonne Ave.; cost \$13,000; hot-water heat. E. O. Bauer, Archt. 5-5

Md., Baltimore—The Realty Co., 11 E. Fayette St., has permit, twelve 2-story brick dwellings and garages, 2401-23 Chesterfield Ave.; slag roofs; cost \$48,000; Geo. Wessel, Archt., 601 W. 40th St.

Md., Chestertown—Mrs. Sarah I. Tolson, reported, let contract \$12,000 dwelling, Roger Phippen, Chestertown; W. S. Cochran, Archt., Milburn, N. J.

Miss., Gulfport—Earl C. Williams let contract \$10,000 residence, Gulf Hills; A. Zien-genfelder, Contr.; Shourds & Bean, Archts.

Tenn., Columbia—E. D. Wells, Contr., has contract rebuild residence, Arthur C. Langston, near Columbia; Dougherty, Wallace & Clemmons, Archts., Cotton States Bldg., Nashville, Tenn.

Government and State

Ga., Marietta—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, reported, let contract additions and alterations, U. S. post office, Barge-Thompson Co., 136 Ellis St., N. E., Atlanta, \$15,890; 1-story and basement, mezzanine, rein. conc., brick, hollow tile, struc. steel, granite, limestone, comp. roof, gypsum plaster, stucco, cork carpet, millwork, glazing, plumbing, heating, wiring. 3-31

La., Barksdale Field, Shreveport—U. S. Army, Capt. Geo. E. Lamb Constr. Quartermaster, let contract Tom Wood, 200 Bryant Ave., Sherman, Tex., \$104,700, 3-story and basement, air corps barracks and hospital building. 4-28

Okla., Miami—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, let contract U. S. post office, courthouse including approaches, James I. Barnes, Logansport, Ind., \$146,200. 5-5

Va., Norfolk—Hall-Hodge Co., Inc., Citizens Bank Bldg., Norfolk, has contract 160 tons, conc. bars, foundation, U. S. post office; Virginia Engineering Co., Inc., Newport News, Va., Contr. 3-21

Hospitals, Sanitoriums, Etc.

Mo., Springfield—Burge Hospital, reported, let contract G. F. Hentschel, Gen. Contr., 1211 S. Pickwick St., \$90,000 addition to building.

Tex., Austin—State Board of Control, Claude D. Teer, Chrmn., let contract State Hospital dormitory addition, Hugh D. Reich, 2301 Canterbury St., \$24,576; brick and rein. conc., fireproof, 40x80; heating, Fox Schmidt, 412 W. 5th St., \$2255; plumbing, John L. Martin, 410 Congress Ave., \$2920; wiring and fixtures, John L. Martin, \$991. W. E. Ketchum, Pope Bldg., Archt. 4-28

Tex., Legion—Veterans Administration, Arlington, Washington, let contract sprinkler system, Veterans Administration Hospital, N. A. Saigh Co., Builders Exch. Bldg., San Antonio, \$7351. 2-25

W. Va., Huntington—Veterans' Administration, Arlington Bldg., Washington, revoked contract for elevators, relet to Otis Elevator Co., 810 18th St., N. W., Washington, D. C., \$13,978. 4-28

Hotels and Apartments

Mo., St. Louis—J. E. Freybal, 3921 Holly Hills, has permit 2-story tenement, 3804-6 Wilmington St., 42x55; comp. roof, hot water heat; cost \$12,000; Ollie C. Farber, 4315 Holly Hills, Bldr.; F. G. Avis, Archt., 1021 Big Bend Rd.

Va., Leesburg—Leesburg Inn, F. D. Cunningham, owner, let contract, J. T. Hurst, Leesburg, \$20,000, rebuilding burned hotel building; 3 stories and basement; hardwood, linoleum and tile floors; lumber, brick and cement construction. 5-5

W. Va., Charleston—Max Roth, 226 Capitol St., let contract Alex Carson, Oakwood Heights, \$60,000, 3-story brick, concrete, steel and tile apartment building.

Miscellaneous

Ala., Tuscaloosa—Theta Upsilon Sorority, Shaler House, Sec., let contract, 2-story, basement and attic white brick sorority house, J. O. Holloman, Miller & Martin, Archts., Title Guaranty Bldg., Birmingham, Ala.

D. C., Washington—J. William Lee's Sons Co., 332 Pa. Ave., N. W., has permit, 2-story stone, brick and steel funeral parlors bldg., Fourth St. and Massachusetts Ave., N. E.; cost \$75,000; R. P. Whitty Co., Inc., Contr., 1343 19th St., N. W.; Murphy & Olmstead, Archt., 1413 H St., N. W.

D. C., Washington—Acacia Mutual Life Assn., reported, let contract, Bradbury & Mohler, 2 DuPont Circle, for film exchange bldg.; 2-story, 136x122, brick, hollow tile and concrete, built-up slag roof, Vevo Vapor heat, sprinkler system, ventilating system, oil burner, electric wiring, acoustical tile, asphalt tile composition flooring, plumbing, decorating, tin clad doors, metal partitions and doors, marble, tile and terrazzo work, limestone and granite. Contractor taking sub-bids. H. Warren Billings, Archt., 17 E. 49th St., New York.

Railways Stations, Sheds, Etc.

Ala., Birmingham—Truscon Steel Co., 513 N. 21st St., has contract 250 tons rein. steel, service building Louisville & Nashville Railroad station; Foster-Creighton & Co., Protection Life Bldg., Birmingham and American National Bank Bldg., Nashville, Gen. Contr.

Schools

Md., Owings Mills—Rosewood State Training School, Dr. Frank W. Keating, Supt., let contract, Davis Construction Co., 9 E.

Chase St., Baltimore, at about \$78,000, to erect women's dormitory; 2 stories, brick; Henry Powell Hopkins, Archt., 10 E. Mulberry St.; Reeder, Elser & Akers, Mech. Engrs., 916 N. Charles St., both Baltimore.

Miss., Bay Springs—Bay Springs Consolidated School Bd., J. M. Kennedy, Supt., let contract Currie & Corley, Contrs., Raleigh, Miss., \$9075, new school building.

Mo., Centertown—School Bd. let contract 4-room brick school, F. M. Engle, Moberly.

Tex., Austin—Following sub contracts let, Library, Physics & Union building, University of Texas: 1200 lin. ft. 4 in. drain tile, Acme Brick Co., N. P. Anderson Bldg., Fort Worth; 317 ft. ceiling inserts, American Air Filter Co., Inc., 215 Central St., Louisville, Ky.; access doors, R. J. Dewees Co., 3015 Grand St., Dallas; steel windows, Hope's Windows, Inc., Jamestown, N. Y. (successors, International Casement Co.); Anchor slot and brick, stone and terra cotta anchors, Jas. S. Pitts, 5607 E. Grand St., Dallas; roofing and sheet metal, C. H. Ruebeck & Co., 218 S. 11th St., Waco, Tex.; metal doors & frames, Varsity Fire Door Co., 2958 Carroll Ave., Chicago, Ill.; hollow metal windows & doors, Physics Bldg., Willis Mfg. Co., Galesburg, Ill. P. O. B. Montgomery, Construction Industries Bldg., Dallas, Gen. Contr.

Tex., Austin—Following subcontracts awarded, Engineering Bldg., University of

Texas: Tile and terrazzo, International Tile Co., 1420 McKinney St.; waterproofing, A. M. Bowles, Post-Dispatch Bldg., both Houston; terra cotta, Winkle Terra Cotta Co., 5839 Manchester St., St. Louis, Mo.; face brick, Acme Brick Co., Santa Fe Bldg., Dallas, Tex.; comp. tile, Sales Service Co., Bldrs. Exch. Bldg., San Antonio.

Tex., Taylor—St. Mary's R. C. Church, Rev. Theo. Drees, pastor, reported, let contract parochial school building, J. J. Worcester, Austin; brick and stone, 2-story, auditorium; cost \$27,000. H. F. Kuehne, Archt., Austin.

Stores

Miss., Jackson—Koenen Electric Co., 303 Hamilton St., Jackson, Miss., has contract electric work, additions and repairs, W. T. Grant Co. store building; W. J. McGee & Son, Gen. Contr., Lamar Bldg., Jackson.

Tex., Jourdon—L. C. Gibson let contract, C. I. Fortenberry, Goose Creek, 1-story store bldg.; 30x60, pine floors, tar and gravel roof, rein. conc. foundation.

Warehouses

Md., Baltimore—F. A. Davis & Son, 119-21 S. Howard St., let contract, J. Raymon Gerwig, 22 S. Liberty St., 1-story addition; cost \$10,000; brick walls, wood interior, slag roof, new elevator.

THE CLASSIFICATIONS IN THIS SECTION ARE:

WANT SECTION

Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

Machinery and Supplies

Crane.—D. C. Elphinstone, Inc. (Construction Equipment), 115 S. Calvert St., Baltimore, Md.—Wants prices and data on ¼-yd. full revolving crane.

Dry Kiln.—Zamora, Henriquez Y Compania (Comsn. Agts.), Apartado No. 104, Tegucigalpa, Honduras, C. A.—Wants prices and data at once on equipment for drying pine wood thoroughly at low cost for match manufacture; equipment must also extract all or part of resinous content; match plant was recently established in above named city and owners are experiencing difficulty with wood used on account of moisture content.

Ice Cream Cone Manufacturing Machinery.—Max Harbison, 2513 23rd St., Lubbock, Tex.—Wants prices and data from manufacturers of ice cream cone manufacturing machinery.

Planer and Matcher.—Newman Machine Co., Geo. F. Newman, Pres., 307-533 Jackson St., Greensboro, N. C.—Has customer interested in late model fast feed planer and matcher, 16x6 or 24x6, equal to Woods 404 B or Yates No. 91, good condition.

Pulverizer.—Cohutta Tale Co., Floyd F. Farrar, Sec. & Treas., Dalton, Ga.—Wants prices and data on Raymond pulverizer with separator complete, suitable for grinding 1½ tons per hour of talc or soapstone crushed ¼ in. and fine, to pulverize same to 98% through 200 mesh; will consider other make of equal capacity.

Tile Cutting Machine.—The Tile Shop, Howard Emerick, Prop., 589 Broadway, Kingston, N. Y.—Wants prices and data on tile cutting machine; used.

R. P. Johnson (Mchy. Dealer), Wytheville, Va.—Wants prices and data on:

- (1) Pump (Steam Duplex)—3 to 4-in. discharge
- (2) Boiler (Locomotive Type)—40 to 80 h. p. complete with fittings, not less than 100 lb. steam working pressure.

J. A. Jones Construction Co., R. A. Jones, V.-Pres. (Contrs. and Bldrs.), 411 Commercial Bank Bldg., Charlotte, N. C.—Wants prices and data on following used, guaranteed equipment, for work at Canal Zone, prices f. o. b. Balboa, C. Z.:

- (1) Skidding Machines—130 to 150 h. p., gasoline driven
- (2) Tractors—60 and 90 h. p., gasoline driven, crawler type, with hoist attachment.

William E. Dunn (Mfrs. Agt.), 540 Hurt Bldg., 409 Park Ave., S. E. Atlanta, Ga.—Wants prices and data on following and other kinds of machinery:

- (1) Generators
- (2) Metal-Working Machinery
- (3) Motors
- (4) Woodworking Machinery.

W. M. Smith & Co. (Mchy. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on:

- (1) Creosoting Cylinder—72 in. x 30 to 60 ft.
- (2) Excelsior Machine—such as knives, spars and knife grinder.

Spencer S. Swasey, 2142 Railway Exch. Bldg., St. Louis, Mo.—Wants prices and data on:

- (1) Barges (Sand)—two, 400-ton
- (2) Clamshell Bucket—1 yd., bull-wheel type
- (3) Draglines—4 to 6 yd., Diesel or electric, long booms; requests full description.

Miscellaneous

Drygoods, Notions, etc.—Irvin Sachs, Altheimer, Ark., opened store—Wants prices and data on stationery, drygoods, notions, shoes, show cases, etc.

Drygoods, Wrapping Paper, etc.—R. F. Moore, Altheimer, Ark., open general store in July—Wants prices and data on printing, wrapping paper, groceries, drygoods, shoes, show cases, scales, etc.

Moving Picture Outfit.—C. L. Hayne, V.-Pres., Natchitoches Oil Mill, Inc., Natchitoches, La.—Wants sub-bids on moving picture outfit for building, 45x90 ft.

Pipe and Fittings.—W. E. Dunn (Mfrs. Agt.), 409 Park Ave., S. E. Atlanta, Ga.—Wants prices and data on 10,000 ft. or more 4 to 12-in. used cast iron pipe and fittings, good condition, or any quantity in position to furnish; also lots of used wrought and steel pipe.

Scales.—See Drygoods, Wrapping Paper, etc.

Show Cases.—See Drygoods, Notions, etc.

V. B. Elkins, Pomona Drug Co., Pomona, N. C.—Wants prices and data on following in quantity:

- (1) Alum
- (2) Blue Vitriol—known as blue stone
- (3) Cartons—for packing goods mentioned in this item
- (4) Castor Oil—tasteless and regular
- (5) Epsom Salts
- (6) Sulphur—sublimed.

Bids Asked

Alleys.—St. Louis, Mo. See Construction News—Roads, Streets and Paving.

Bituminous Coal.—University of Missouri, Leslie Cowan, Sec., Bd. of Curators, Columbia, Mo.—Bids May 25 for bituminous coal, period June 1, 1932, to May 31, 1933.

Bridge Foundation (Concrete).—Harvey, La. See Construction News—Bridges, Culverts and Viaducts.

Bridges.—State of Oklahoma, 5 bridges. See Construction News—Roads, Streets and Paving.

Bridges.—Baltimore, Md. See Construction News—Bridges, Culverts and Viaducts.

Brushes (Steel Wire).—See Ship Augers, etc.

Cement (Portland).—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids May 17 for furnishing Portland cement to Naval Academy, Annapolis, Md., and naval powder factory, Indian Head, Md.

Clothing.—Quartermaster, Fort McClellan, Ala.—Bids May 27 for citizens' clothing, Cir. 13.

Coal.—University of Missouri, Columbia, Mo.—Bids May 25 for furnishing bitum. coal for University, June 1, 1932, to May 31, 1933.

Concrete Walls.—Memphis, Tenn. See Construction News—Miscellaneous Construction.

Culvert Pipe.—Road Directors of Allegany County, D. P. LeFevre, Road Engr., Court House, Cumberland, Md.—Bids May 18 for minimum carload of galv. corrugated culvert pipe.

Electric System.—Office of Quartermaster, Army War College, Washington, D. C.—Bids May 16 for changes in underground electric distribution system, Cir. 32.

Electric System.—Quartermaster, Fort Myer, Va.—Bids May 17 for reconstructing electric distribution system, Cir. 21.

Elevator.—Supvg. Archt., Treasury Dept., Washington, D. C.—Bids June 1 for elevator plant in post office, court house, etc.

Engine (Gasoline).—See Generator Set.

Envelopes.—Post Office Dept., Walter F. Brown, Postmaster Gen., Washington, D. C.—Bids May 20 for envelopes for departments

and independent establishments, for 1 yr., beginning July 1.

Gas Ranges.—Quartermaster, Key West Barracks, Key West, Fla.—Bids May 23 for 7 gas ranges for artificial gas, Cir. 15

Generator Set.—City of Greenville, Miss., Guy Drew, Clk.—Bids May 23 for installation and purchase of gasoline engine and generator set, together with all necessary switching equipment.

Hand Saws.—State Div. of Purchase and Contract, W. Z. Betts, Asst. Dir., Raleigh, N. C.—Bids May 19 for 4½ doz. hand saws.

Hardware, Plumbers' Supplies, etc.—Pur. Officer, Dept. of Interior, care U. S. Indian Warehouse, 806 Spruce St., St. Louis, Mo.—Bids June 1 for annual supply of hardware, plumbers' supplies, etc., for fiscal year 1933, including tools, log chains, steel, tin, hose and fittings, leather belting, etc., Sch. 17.

Hospital Building.—Fayetteville, Ark. See Building News—Hospitals, Sanatoriums, etc.

Magazine (Powder).—Montgomery, Ala. See Building News—Government and State.

Painting.—Custodian, U. S. Post Office, Mineral Wells, Tex.—Bids May 20 for interior painting.

Paving Material, etc.—Winchester, Ky. See Construction News—Roads, Streets and Paving.

Paving Repairs, Surface Treatment.—Comms. D. C., 427 Dist. Bldg., Washington, D. C.—Bids May 18 for repairing asphaltic pavements with asphaltic materials, repairing about 46,000 sq. yds. cement conc. bases, furnishing about 14,000 tons bituminous conc. mixture for cold patching and surface treatment of about 260,450 sq. yds. of streets, roads and avenues with bituminous material; bids May 19 for repairing 40,000 sq. yds. cement conc. sidewalks and repairing about 40,000 sq. yds. cement conc. roadway and alley improvements.

Plumbing Fixtures.—Bureau of Prisons, Dept. of Justice, Washington, D. C.—Bids May 16 for plumbing fixtures; Sch. 598.

Pump.—Constructing Quartermaster, Army and Navy General Hospital, Hot Springs, Ark.—Bids May 24 for horizontal centrifugal pump with starter and control equipment.

Painting.—Custodian, U. S. Post Office, Harrisonville, Mo.—Bids May 16 for interior and exterior painting.

Roads.—State of Maryland, 5 roads. See Construction News—Roads, Streets and Paving.

Road Material.—Florida. See Construction News—Roads, Streets and Paving.

Roads.—State of Florida, 9 roads. See Construction News—Roads, Streets and Paving.

Roads.—State of Oklahoma, 2 roads. See Construction News—Roads, Streets and Paving.

Scarifier Teeth.—State Div. of Purchase and Contract, W. Z. Betts, Asst. Dir., Raleigh, N. C.—Bids May 19 for 300 scarifier teeth for Gallon motor grader; 2½x¾x19 in., double pointed, of special steel, having 1.00/1.10 carbon and 55/90 manganese content.

Screens.—Constructing Quartermaster, Langley Field, Hampton, Va.—Bids May 20 for constructing window, door and porch screens for noncommissioned officers' service club and guard house.

Sedimentation Basins, etc.—Quartermaster, Fort Geo. G. Meade, Md.—Bids May 16 for sedimentation basins, mechanical agitator and clear water well; \$10 deposit for plans, etc.; Cir. 65.

Screening.—Constructing Quartermaster, Army Medical Center, Washington, D. C.—Bids May 26 for screening all exterior doors and windows of addition to A. M. School, Cir. 7.

Service Building.—New Bern, N. C. See Building News—Government and State.

Ship Augers, etc.—State Div. of Purchase and Contract, W. Z. Betts, Asst. Dir., Raleigh, N. C.—Bids May 19 for 15½ doz. ship augers and 5 doz. steel wire brushes.

Shutters.—Supvg. Archt., Treasury Dept., Washington, D. C.—Bids May 24 for rolling steel shutters, post office, St. Petersburg, Fla.

Signs (Highway).—State Dept. of Highways, Richmond, Va.—Bids May 20 for 1105 white crystal button type reflector highway signs.

Stationery.—United States Senate, Edwin P. Thayer, Sec., Washington, D. C.—Bids May 26 for furnishing stationery for U. S. Senate for fiscal year ending May 26, 1933.

Streets.—Clayton, St. Louis, Mo. See Construction News—Roads, Streets and Paving.

Streets.—Baltimore, Md. See Construction News—Roads, Streets and Paving.

Street.—Towson, Baltimore, Md. See Construction News—Roads, Streets and Paving.

Streets.—Washington, D. C.—See Construction News—Roads, Streets and Paving.

Street.—Roanoke, Va. See Construction News—Roads, Streets and Paving.

Street.—Waveland, Miss. See Construction News—Roads, Streets and Paving.

Trucks.—Purchasing Agt., Post Office Dept., Washington, D. C.—Bids May 25 for 550 motor trucks, complete, consisting of chassis having gross load carrying capacity of not less than 4200 lb.

Truck Bodies.—Purchasing Agt., Post Office Dept., Washington, D. C.—Bids May 25 for 550 200-cu. ft. capacity standard mail truck bodies with closed cabs, unmounted; also, 550 200-cu. ft. capacity standard mail truck bodies with closed cabs, unmounted, in lots of 8, 123, 91, 208 and 60.

Truck Chassis.—Purchasing Agt., Post Office Dept., Washington, D. C.—Bids May 25 for 550 motor truck chassis having gross load carrying capacity of not less than 4200 lb.

Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until dates indicated, delivery as indicated, for:

Cypress and Port Oxford Cedar.—various east and west coast points, Sch. 7976, May 24

Band Saw.—ball bearing, motor driven, Mare Island, Calif., Sch. 7988, May 17

Steel.—3860 lb., corrosion resisting, Puget Sound, Wash., Sch. 8009, May 17

Pipe.—brass and copper, and copper tubing, various east and west coast points, Sch. 8018, May 24

Insulating Material.—various east and west coast points, Sch. 7975, May 24

Brushes and Brush Sections.—and boiler tube wire, Brooklyn, N. Y., and San Diego, Calif., Sch. 7989, May 24

Thermo Plastic Molding Press.—mechanical type, motor driven, Portsmouth, N. H., Sch. 7989, May 17

Truck (Electric).—storage battery, Hampton Roads, Va., Sch. 7991, May 17

Ignition Cable.—200.06 ft., Philadelphia, Pa., Sch. 7993, May 17

Hose (Oil).—2100 ft., suction and discharge, rubber, Hampton Roads, Va., Sch. 7994, May 17

Furnace.—high speed steel treating, San Diego, Calif., Sch. 7995, May 24

Pipe.—conduit, various east and west coast points, Sch. 8004, May 24

Glue (Hide).—Norfolk, Va., and Mare Island, Calif., 8007, May 17

Pipe.—wrought, welded, various east and west coast points, Sch. 8020, May 24

Gages.—water, plain, for boilers, various east and west coast points, Sch. 8030, May 24

Steel Forgings.—19,080 lb., Mare Island, Calif., Sch. 8037, May 24

Air Ejector Equipment.—and spare parts, New York and San Francisco, Sch. 7933, May 17

Cans and Pails.—tin, Mare Island, Calif., Sch. 7962, May 17

Shoe Lasts.—and insole patterns, Brooklyn, N. Y., Sch. 7980, May 17

Lumber.—Philadelphia, Pa., Sch. 7982, May 17

Containers.—15,450, single trip, steel, San Francisco, Sch. 7998, May 24

Commissioners, D. C., 320 Dist. Bldg., Washington, D. C.—Bids, dates indicated for following:

Sterilizer.—1, steam-jacketed, pressure vacuum, for D. C. Jail, May 25

Furniture (Bedroom).—36 suites for Gallinger Hospital, May 20

Steel.—25,000 sheets, 13x61 in., for auto tags, alternate of 250,000 steel blanks, May 20.

Div. of Supply, Treasury Dept., Washington, D. C.—Bids until dates indicated for following:

Button Shells and Black Bone Buttons.—during next fiscal year, Pro. 8052, May 18

Sash Chain.—during next fiscal year, Pro. 8055, May 17

Kerosene.—during 6 months' period ending Dec. 31, Pro. 8056, May 16

Badges.—during next fiscal year, Pro. 8053, May 20

Handcuffs.—during next fiscal year, Pro. 8054, May 16

Ladders.—during next fiscal year, Pro. 8058, May 16

Rubber Desk Mats.—during next fiscal year, Pro. 8107, May 16

Electric Supplies.—panel board, outlet box covers, flush plates, locknuts, conduit, conductor, Pro. 8184, May 16

Drugs and Chemicals.—Pro. 8218, May 16

Brushes.—sidewalk, radiator, wall, wall or ceiling, toilet, wire core, rattan push, etc.; whisk brooms, Pro. 8225, May 18.

Department of Agriculture, Washington, D. C.—Bids, dates indicated for following:

Cotton Gins.—2, delivery Stoneville, Miss., Pro. 1634, May 20

Photo-Engravings.—for fiscal year, May 20, Pro. 1656

Microscope (Mono-Objective Binocular).—May 17, delivery Washington, Pro. 1663

Transformer.—15 k-v., May 17, Houma, La., Pro. 1672

Hygrothermograph (Recording).—1 for Baton Rouge, 1 for Portland, Ore., 1 for Washington, D. C., May 17, Pro. 1673

Trucks (Automobile).—2 for Frankfort, Ky., May 17, Pro. 1671

Microscope (Binocular).—May 17, delivery Washington, Pro. 1676

Marine Corps, Q. M. Dept., Washington, D. C.—Bids until dates indicated for following, delivery as indicated:

Miscellaneous Hardware.—Sch. 872, Quantico, Va., May 20

Gasoline Pumps.—Sch. 877, Hampton Roads, Va., May 20

Lacquers, etc.—Quantico, Va., Sch. 858, May 16

Paints.—Quantico, Va., Sch. 869, May 20

Shade Cloth, etc.—Sch. 859, Quantico, Va., May 16

Beds and Springs.—132 each, Philadelphia, Pa., Sch. 860, May 20

Sateen Lining.—35,000 yd., Philadelphia, Pa., Sch. 871, May 23

Glass.—Quantico, Va., Sch. 870, May 16

Discharge and Reserve Buttons.—Washington, D. C., Sch. 873, May 20

Vegetable Peeling Machine.—Boston, Mass., Sch. 874, May 20.

Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids May 23 for following, for fiscal year ending June 30, 1933, Sch. 2751:

Cup greases, lubricant (gear, chain and wire rope), car and locomotive engine oil, cotton waste, and wiping cloths.

Procurement Div., Veterans' Administration, Washington, D. C.—Bids until dates indicated for:

Silver Burnishing Machines.—during 6 or 12 months' period, Cir. 436-M, May 16

X-Ray Films.—during next fiscal year, Cir. X-255, June 7

Electric Toasters.—during 6 or 12 months' period, Cir. 500-M, May 16

Pens and Transformers.—during 6 or 12-month period, Cir. 453-M, May 16

Flooring (Composition).—during 6 or 12-month period, Cir. 473-M, May 16

Dental Supplies.—during fiscal year, Cir. 54-D, May 20

China Ware.—Cir. G-307, May 19

Dental Impression Plaster.—during next fiscal year, Cir. 67-D, May 20

Table Bases and Tops.—during 6 or 12-month period, Cir. G-285, May 20

Prescription Balance.—1 set apothecary weights, Cir. 758, May 16

Vegetable Washing Machines.—during 6 or 12 months' period, Cir. 428-M, May 19

Oil Tanks and Pumps.—during 6 or 12 months' period, Cir. 504-M, May 19

Gas Toasters.—180, 360 and 720 slice capacity, during 6 or 12 months' period, Cir. 433-M, May 20

Surgical Beds.—during 6 or 12 months' period, Cir. 784, May 16

Dental Carborundum Points and Wheels.—during next fiscal year, Cir. 65-D, May 20

Dental Supplies.—during next fiscal year, Cir. 53-D, May 20

Fire Fighting Equipment.—wall ladders, fire dept. lanterns, combination hose spanner fire hydrant wrenches, pipe poles, life saving net and play pipes, Cir. 528-M, May 17

Lawn Mowers.—during 6 or 12 months' period, Cir. 533-M, May 19

Bed Casters.—during 6 or 12 months' period, Cir. 492-M, May 20

Electric Water Heater.—Cir. 549-M, May 17

Concrete Mixer.—Cir. 514-M, May 17

Dish Racks (Metal).—135, Cir. 554-M, May 17

Pipe and Nipple Threading Machines.—2, Cir. 551-M, May 17

Wash Basins.—200, Cir. G-317, May 18

Round Tables.—with pedestal bases, during 6 or 12 months' period, Cir. G-269, May 23

Hospital Beds.—during 6 or 12 months' period, Cir. 823, May 17

Automobiles.—sedan type, Cir. 527-M, May 17

Radio Test Sets.—during 6 or 12 months' period, Cir. 516-M, May 19.

U. S. Engr., Kansas City, Mo.—Bids May 16 for following:

Oil Burning Unit.—Cir. 548

Combustion Chamber (or Dutch Oven).—Cir. 546.

U. S. Engr., Memphis, Tenn.—Bids on dates designated for following:

Motors—3 15-h. p. induction motors, Cir. 621, May 16

Boats—constructing and delivering 2 steel hull whirler derrick boats, Cir. 611, June 1.

Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until dates indicated for following, delivery as indicated:

Steering Equipment—automatic, and spare parts, Portsmouth, N. H., Sch. 7996, May 24

Mooring Buoy (Steel)—Mare Island, Calif., Sch. 8000, May 31

Forgings—steel and copper alloy, drop, Newport, R. I., Sch. 8017, May 24

Lumber (Pine)—various east and west coast points, Sch. 8026, May 24

Asphalt (Paving)—Norfolk, Va., Sch. 8032

Cork—compressed (corkboard), 7000 sq. ft., Norfolk, Sch. 8054, May 17

Temperature Controller—automatic, and spare parts, 15 sets, Washington, D. C., May 24

Air Ejector Equipment—and spare parts, various east and west coast points, Sch. 7990, May 24

Pumps—lubricating oil, complete, New York, N. Y., Sch. 7992, May 24

Engraving Machine—and grinder, motor driven, New York, and San Francisco, Sch. 7999, May 24

Lavatories—shower-head, urinals, various east and west coast points, Sch. 8005, May 24

Wax—cerassin and carnauba, Norfolk, Va., Sch. 8019, May 24

Sheeting—30,000 yd., cotton, bleached, Mare Island, Calif., Sch. 8021, May 24

Pipe and Tubing (Steel)—various east and west coast points, Sch. 8029, May 24

Paper Towels—various east and west coast points, Sch. 8033, May 31

Pump—horizontal, centrifugal, San Diego, Calif., Sch. 8055, May 24.

other, it is evident that excellent progress has been made, doubly so when it is considered that thousands of miles of roads not classified as high-type pavements are roads technically known as stage construction. This stage construction, or preparatory work, will enable the Federal government and the states to proceed at a gait much more rapid than was possible during the first few years of Federal Aid.

"The states and the Federal government have a tremendous investment in the system, and that investment must be protected. The only way is to continue Federal Aid in such amount that a reasonable and logical mileage of roads can each year be elevated to the class of construction warranted by traffic. There are thousands of miles of low type and unimproved roads on the system that need to be surfaced or a better grade of surfacing provided. If they are permitted to remain in their present condition the traveling public will be penalized in high car-operating costs and the states through high road-upkeep costs.

"In 1931 approximately 11,000 miles of Federal Aid highways were improved. That is good progress and in view of the importance of highway transportation to every citizen, it is necessary that this rate be maintained."

All-Welded Tanker Delivered by Its South Carolina Builders

An all-welded tanker, the Barbara Ruxton, was delivered recently to its owners, the Ruxton Transport Corporation of Great Neck, Long Island, by the builders, the Charleston Dry Dock & Machine Company, Charleston, S. C. The craft has an overall length of 64½ feet, beam of 22 feet and depth of 8 feet, providing for a total capacity of 45,000 gallons in five separate tanks. The hull is entirely rivetless, the R. F. Smith System being used throughout; even the deck house, engine foundations, stern tube, rudder, rudder carrier, mast and booms, hatches, etc., are of all-welded construction.

The Barbara Ruxton is propelled by a Fairbanks-Morse 100-horsepower direct reversible marine engine. Equipment includes air tanks and auxiliary air compressor of Fairbanks-Morse make. There also is a Fairbanks-Morse 32-volt lighting plant and a 100-hour battery. There are two Viking cargo pumps which have a capacity of 450 gallons a minute each. Each pump is driven by a 35-40 horsepower 6-cylinder Buda gasoline engine. The pumps are connected through a 5-inch manifold to the tanks, making it possible to pump out the craft very quickly under their own power.

There is a pilot house on the deck, equipped with necessary controls for the entire operation of the vessel. A steel mast with two booms is located near the head of the vessel, and there are two flexible hose connected to the suction and discharge manifold handled by these two booms.

\$809,000 Hospital Contract

General contract to erect a new U. S. Marine Hospital in Baltimore has been awarded by the Treasury Department, Washington, Jas. A. Wetmore, Acting Supervising Architect, to the W. E. O'Neil Construction Company, Chicago, at \$809,900. Contract calls for completion of the project within 540 working days. Construction will cover a main building, 300 by 240 feet, 7 stories; 2-story power house, laundry and garage, 75 by 175 feet, and brick stack.

Frozen Package Industry

Quick-freezing is America's fastest growing industry, according to Clarence Birdseye and Gerald A. Fitzgerald of the Birdseye Laboratories, Gloucester, Mass., in a paper prepared for the American Chemical Society. These scientists say that the Birdseye Packing Company, subsidiary of the General Foods Corporation, is today distributing "more than 100 different frozen-packaged perishables through approximately 300 different retail stores in New England and the Central Atlantic States. The company sold only 100,000 packages of meats, fruits, and vegetables in 1930, but its estimated 1932 sales of these items are nearly 20,000,000 packages."

Elimination of inedible matter at the point of production, storage and shipment at zero temperature and distribution through mechanically-operated low temperature cases in retail stores are among the advantages claimed for this system as assuring protection, from the time the product is harvested until it reaches the consumer's kitchen. Further:

"Adaptations of these methods were first applied on a commercial scale to fish; and by the end of 1930 the fish business of the northeast United States had been greatly influenced by quick freezing, and at least 20,000,000 pounds of fish fillets alone were produced in 1930. These quick-frozen seafoods greatly extended the distance to which ocean fish could be shipped and largely increased the annual consumption in the Central States. In 1929, rapid freezing of packaged perishables was extended to include meats, poultry, fruits, vegetables and shellfish.

"Freezing of packaged foods is accomplished under Birdseye patents by pressing the product firmly between heat conductive plates held at 25 to 50 degrees below zero Fahrenheit. Some of the freezing machines are permanently installed and make use of endless metal belts which turn out a steady stream of frozen-packaged perishables 24 hours a day throughout the production season.

"Other types of apparatus consist of large hollow aluminum plates cooled by the expansion of ammonia gas within the plates; these machines are entirely self-contained and may be transported by truck or freight into producing areas, where they are used to preserve the pick of the crop and are then moved to the next production area."

Building Fleet of Steel Barges

The Marietta Manufacturing Company, Point Pleasant, W. Va., has under construction a fleet of 12 steel cargo barges, 132 feet long, 35 feet wide and 10 feet deep. These barges, being built for the Campbell Transportation Company, Pittsburgh, have a capacity of approximately 850 tons of cargo each, and will be used in transporting various products by river between Pittsburgh, St. Louis, Memphis and New Orleans. About 200 tons of steel are required for the construction of each barge.

Small Mileage of High-Type Roads on Federal-Aid System

"Although the need for jobs is a prime factor in the continuation of Federal Aid to the states in road building at least on the present scale, it must not be forgotten that a large and economically needed road-building job still remains to be done," states Frederic E. Everett, president of the American Association of State Highway Officials, Washington, D. C.

"Of the 197,000 miles on the Federal Aid system only 76,300 miles have high-type surface," Mr. Everett points out. "Some 14,500 miles on the system have received no attention whatsoever and 28,850 miles are still in the graded and drained stage. An additional 57,800 miles have only low-type surfaces and 19,400 miles have intermediate type surfaces.

"On the one hand, the task ahead assumes astounding proportions. On the

INDUSTRIAL NEWS

American Society of Tool Engineers

Composed of members connected with various branches of the tool industry in Greater Detroit, in Pontiac, Flint, Lansing, Saginaw and Bay City, the American Society of Tool Engineers has been organized to "advance, promulgate and further the Arts and Sciences of Tool Engineering." The following officers have been elected to serve until April, 1933: J. A. Siegel, assistant chief tool designer, Packard Motor Car Co., Detroit, president; W. H. Smila, tool engineer, Chrysler Corporation, Detroit, first vice-president; E. J. Rugglen, chief tool designer, Gemmer Mfg. Co., Detroit, second vice-president; A. M. Sargent, president and general manager, Pioneer Engineering & Mfg. Co., Detroit, secretary; W. J. Fors, tool engineer, Detroit, treasurer.

Construction Equipment and Machinery

Through the Arundel Corporation, Baltimore, Md., as agent, the Safe Harbor Water Power Corporation, Lexington Building, Baltimore, is offering surplus construction equipment and machinery used in the construction of the Safe Harbor hydro-electric project. A catalogue covering the equipment and machinery has been issued; because of the wide scope of work at Safe Harbor, the equipment is varied and well adapted to practically all branches of the construction industry and to commercial plants as well. Part "A" of the catalogue lists equipment available for immediate sale, while part "B" lists equipment to be available for sale in the near future. In addition to items listed, there are offered for sale large quantities of salvaged construction materials, such as lumber, timber, pipe and fittings, electrical materials and general construction supplies. There will also be available a considerable quantity of miscellaneous small equipment, small tools and camp and office equipment.

Crane Promoted to Sales Manager

According to an announcement by R. W. Egan, president of J. A. Fay & Egan Co., manufacturers of woodworking machinery, Cincinnati, Ohio, F. T. Crane has been promoted to the position of sales manager. Mr. Crane is well known in the woodworking industry in the Chicago district where he was district sales manager, prior to being called to the plant to take charge of the school and government sales division. He succeeds to the position of sales manager at an opportune time to assist in the introduction of a newly designed line of woodworking machines to be placed on the market by the J. A. Fay & Egan Co.

Installs Teletypewriter

The Western Electric Point Breeze Works, near Baltimore, has installed a teletypewriter service, the first for the exclusive use of that plant. The Point Breeze teletypewriter is connected with the teletype switchboards in the Chesapeake & Potomac telephone exchange at 5 Light street, Baltimore, and through that medium may transmit and receive messages to and from any other teletypewriter subscriber in the United States.

Build Oil Carrying Barge

The Marietta Manufacturing Company has completed a 50,000-gallon steel bulk oil carrying barge at its shipyards at Point Pleasant, W. Va., for the Sterling Oil Company, St. Marys, W. Va.

To Block Off Water Flows

Fissureseal, a product made by the Sullivan Company, Memphis, Tenn., for solidifying porous strata and blocking off water flows, is declared to have met with success wherever it has been used. The Sullivan Company are well known as manufacturers of paint products, etc.

Engineer on Naval Stores

J. E. Lockwood, formerly with the Hercules Powder Company, Wilmington, is now located at 715 Liberty National Bank Building, Savannah, Ga., as consulting engineer specializing on naval stores problems and possibilities. In serving the industry, Mr. Lockwood will cooperate with others, including the Pine Institute and the United States Timber Conservation Board.

To Select Most Beautiful Bridges

The American Institute of Steel Construction, New York, has named a jury of nationally known architects and engineers to select the most beautiful steel bridges erected and opened to traffic during the past year. Builders, fabricators, commissioners and owners have been invited to enter new bridges in this competition, in which three awards will be made in three different classes.

Barber-Greene Boston Manager

The Barber-Greene Company, Aurora, Ill., manufacturers of standardized material handling machinery, announce the appointment of Walter B. Holder as branch manager of their Boston office. Mr. Holder has been with the company since 1926, for the most part as head of the coal handling line. Previously he had 11 years experience designing coal elevating and conveying machinery with the Underwood Machinery Company and the Mead-Morrison Manufacturing Company, Boston, and George P. Carver, Inc., coal plant builders and engineers.

General Electric Air Conditioning Department

The General Electric Company, Schenectady, N. Y., announces through its president, Gerard Swope, the organization of an Air Conditioning Department to market various electrical devices for home heating, humidifying and temperature control, one of the first products marketed to be a complete oil burning furnace. J. J. Donovan, of Cleveland, formerly in charge of house refrigeration sales, will be manager. Headquarters will be maintained at General Electric's New York offices, 120 Broadway.

White Company Directors

Stockholders of the White Motor Company, Cleveland, Ohio, have re-elected all members of the board of directors and have elected T. R. Dahl and George H. Kelly additional members. Mr. Dahl is now serving as vice-president and secretary and Mr. Kelly is vice-president and treasurer. Other members of the board are R. W. Woodruff, chairman, A. G. Bean, president, Charles L. Bradley, Warren S. Hayden, Otto Miller, Homer H. Johnson, J. R. Nutt, E. W. Stetson, Walter C. Teagle, E. R. Tinker and W. King White. The regular quarterly dividend of \$1.75 was declared, payable June 30 to stock of record June 13.

In New Quarters

The Concrete Reinforcing Steel Institute is now located in its new offices at 333 North Michigan Boulevard, Chicago.

National Blow Pipe Reorganized

John C. Rogers, formerly vice-president of Houston Blow Pipe and Sheet Metal Works, Houston, Tex., has been made president of the National Blow Pipe and Manufacturing Company, Ltd., New Orleans, La., and Redding Sims, formerly of Atlanta, has been made vice-president. M. M. Saunders is the new secretary and office manager, and T. C. Fitzgerald is production manager in charge of city work. These officials of the reorganized company, which has been in operation for 30 years, bring to the enterprise a wide acquaintance with the needs, practice and personnel of the lumber and cotton oil mill industries throughout the South. While the company will engage primarily in the manufacture, distribution and installation of its own equipment, exclusive representations have been secured for a number of well known manufacturers of equipment used in these two industries. These include: Davidson-Kenney Company and Atlanta Utility Works, manufacturers of cotton oil machinery, both of Atlanta; Johnson Manufacturing Company, Atlanta; B. F. Sturtevant Company, Boston, Mass., pioneers in air engineering and manufacturers of fans and fan systems, dryers, fuel economizers, etc., and the Western Rotary Ventilator Company, Los Angeles, Cal., industrial and household ventilation. The National Blow Pipe and Manufacturing Company's plant at New Orleans has developed and applied for patents on a device for the elimination of soot and cinders emitting from smoke stacks.

Trade Literature

Band Saw Mills, Etc.—The J. A. Fay & Egan Co., Oakley, Cincinnati, Ohio, has issued a 28-page booklet on Band Saw Mills, Log Carriages, Gang Edgers, Trimmers, Head Blocks, Set Works, Feed Works, Filing Room Equipment and other accessories. A feature of the booklet is a layout of a modern band saw filing room, showing how various items of equipment may be efficiently arranged. Copies of the publication may be obtained from the company without cost.

Commodity Specifications.—As a second edition of the Directory of Specifications first issued in 1925, the Bureau of Standards has issued Miscellaneous Publication No. 130, which contains an alphabetical list of commodities and a thoroughly classified list of specifications formulated by organizations having national recognition. Copies of the new directory may be obtained from the Superintendent of Documents, Government Printing Office, Washington, at \$1.75 each.

Book on Rubber.—Portraying the romance of the rubber industry and the part played in its development by the B. F. Goodrich Company, Akron, Ohio, the firm's latest publication, "The Wonder Book of Rubber," is ready for distribution. It is not offered as a scientific discussion, but as a story of rubber manufacture and use of rubber products. Copies may be obtained from the Public Relations Department of the company.

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116 New Industries Along Railway

Dallas, Tex.—President J. L. Lancaster of the Texas & Pacific Railroad, in his annual report, states there were 116 additional industries located during 1931 along the company's existing trackage and 7.2 miles of new track built last year. Of the total, 77 industries located in the vicinity of the railroad's facilities in the East Texas oil field territory.

Millwork Manufacturers to Meet

Charlotte, N. C.—Millwork manufacturers in the two Carolinas will meet in Charlotte this month, according to Victor W. Wheeler, secretary-treasurer of the Carolina Retail Lumber and Building Material Dealers Association, to seek a basis upon which the millwork industry may remedy the unfavorable situation with which it is now confronted.

Life of Buildings Prolonged

Modern science has devised means of prolonging the life span of many organic materials commonly used for shelter, according to F. Leo Smith, of Washington, technical secretary, structural service department, American Institute of Architects, and also a member of the National Committee on Wood Utilization of the Department of Commerce.

By chemical impregnation of construction materials, notably wood, the average period of obsolescence of homes and buildings is synchronized with that of the materials entering into their construction. Further, as outlined in a booklet, "Treated Lumber; Its Uses and Economies":

"The impregnation of structural parts with chemical preservatives enhances their lasting properties from two to five times, and in some instances gives a certain degree of fire retardance.

"Foundation timbers, sills, floor joists, and other sub-structural members are often used where there is moisture, which causes decay and is also conducive to insect attack. In most buildings only a relatively small percentage of the lumber need be chemically treated to insure adequate protection, but in the aggregate millions of dollars in repairs and replacements could be saved annually. Many railroads, public utilities, and other large consumers operate their own wood-preserving plants because of economies involved in the use of chemically preserved wood.

"Savings in reduced repair and replacement costs for ties, bridge timbers, crossing planks, car lumber, etc., have accrued to a point where the American railroads alone estimate savings from the use of chemically treated wood at \$145,000 a day. Proportionate economies may be effected by property owners who use preserved wood for the

parts of their buildings that require protection against decay and insects.

"Coal-tar creosote and zinc chloride are the two principal wood preservatives. Any preservative chemical to be thoroughly effective, must be injected into the fibers of the wood under pressure. In this manner, wood is made distasteful or poisonous to insects and decay producing fungi, but not to humans or animals."

Eliminates Waste in Clay Tiles for Floors and Walls

Washington, D. C.—Manufacturers of clay tiles for floors and walls who have accepted simplified practice recommendation No. 61-30 have expressed intention to identify the simplified lines in their new catalogs and trade lists, according to the division of simplified practice of the Bureau of Standards. This procedure is designed to assist users of clay tiles for floors and walls to adhere closely to a waste elimination program, it is said, while cooperation by architects, engineers, contractors, purchasing agents and other users would greatly increase benefits and economies possible through simplified practice. The clay tile industry is the second to record a 100 per cent identification in catalogs, the first being the industry which formulated and approved simplified practice recommendation R100-29 covering welded chain. Edwin W. Ely, chief of the division of simplified practice, declares that "many manufacturers in other industries, who have cooperated in establishing simplified practice recommendations, realizing the value of the plan, have adopted this same policy of identification."

North Carolina's 600-Mile Main Street

By W. L. REYNOLDS, Hendersonville, N. C.

Highway 10, from the mountains to the sea, now becoming known as North Carolina's Main Street, was in early days a stage-coach line, running from the mountains to the state capital at Raleigh, and from there to the seacoast. Along this route were a number of taverns or inns where the stage-coaches stopped at night, leaving at dawn for another day's journey over the rough roads. The stage-coach was replaced by the railroad and now passengers could reach the state capital in one day. Also the steam locomotive hauled not only passengers but freight for the use of villages and settlements growing up at different points along the line. Things were desired that could not be had at home, and this railroad hauled also machinery and equipment for the business interests at various towns along the 600-mile route.

Industries grew as the towns became larger and more numerous. More industries meant more transportation. Transportation facilities have increased until now, with the recent paved highway, several towns along this Main Street have their \$10,000,000 plants, each with 2000 or more employees, or they have their 50 or more small industries in communities of well-satisfied and healthy people. North Carolina's Main Street is in the heart of the South, favored with good climate and an abundance of natural resources for further industrial expansion.

Airplane in Sales Work



Harold A. Mears, of the Havatampa Cigar Co., Tampa, Fla., finds a three-passenger Curtiss-Robin closed monoplane an effective means of keeping in touch with salesmen in six states who operate from the company's Knoxville, Tenn., branch. The ship is powered by a 165-horsepower Wright Whirlwind motor, capable of a cruising speed of 100 miles an hour. Recently Mr. Mears made a five-hour flight from Louisville, Ky., to attend a sales conference at Tampa. Ranking as a first lieutenant in the Army Air Corps, he holds a transport pilot's license and has a record of over 1000 hours of flying.

\$2,750,000 NEW ORLEANS CONSTRUCTION

Important Projects in Progress or Soon to be Started

New Orleans, La.—Contracts already awarded and projects to be announced within the next 90 days for New Orleans construction work will entail an outlay of approximately \$2,750,000, according to estimates. These figures do not take into account some projects already planned but indefinite as to when work will be started, nor do they include work well under way or nearing completion. Contracts aggregating \$225,000 were recently awarded for the School of the Holy Name to be erected by Loyola University, while a \$100,000 radio station was announced. In addition to the above, contracts have been awarded or plans announced for the following major projects: Marine Hospital two buildings, to cost \$90,000; Shushan Airport, five buildings, \$408,000; Carrollton branch post office, \$20,000; Tremé and St. Roch markets, \$100,000; Knights of Columbus Hotel, \$500,000; Convalescent Home, Charity Hospital, \$500,000; Tulane gymnasium, \$140,000; Municipal Boys' Home, \$180,000; French Market, \$500,000; Laundry Service, Inc., \$40,000.

It is estimated that new dwelling construction, remodeling work and business and miscellaneous construction will bring the total outlay to \$3,000,000.

Plans for the School of the Holy Name were prepared by Rathbone De Buys, with E. A. Christy as consulting architect. Lionel F. Favret is the general contractor; Hartwell Company contractor for plumbing, heating and ventilating, and the Barnes Electrical Construction Company for electrical work. Work is progressing on two buildings for the U. S. Marine Hospital to house attendants, provide garage facilities and workshop. An incinerator and new porch are also included, as well as grading and road building. Structures to be erected at Shushan Airport include a 2-story administration building with tower, two hangars, repair shop, and emergency and storage building.

Bids have been opened for the construction of the two public markets—the Tremé and St. Roch—and figures are being considered by the commission council. Plans for the French Market rehabilitation have not progressed so far as those of the other markets, but preliminary work has been done. Bids have also been opened for the new Knights of Columbus Hotel and Club and it is likely contracts will soon be awarded. No date has been set to receive bids on Tulane

gymnasium, although the building is expected to be ready for occupancy by October. Armstrong & Koch are the architects. Preliminary plans are being prepared for the Convalescent Home of Charity Hospital, in the office of Weiss, Dreyfous & Seiferth, and the same architects prepared plans for the branch post office at Carrollton and Oak streets. Work is expected to be started soon on the Municipal Boys' Home and ground has already been broken for the new laundry building at Washington avenue and Powerline street.

\$399,000 Bridge Contract

South River, Md.—The State Roads Commission, Harry D. Williar, chief engineer, Baltimore, awarded contract at \$399,470 to the Empire Construction Co., Baltimore, to build a bridge across South River, about 500 feet above the present bridge on the Upper Marlboro-Annapolis road. The entire length of the structure will be 2186 feet, with a swing girder span in the center to provide an opening for water navigation of 70 feet between fenders. The bridge will be of steel and concrete to carry a 22-foot roadway and two 4-foot sidewalks. It will be supported on steel cylinders encasing concrete and resting on timber piles. The cost complete will be about \$525,000.

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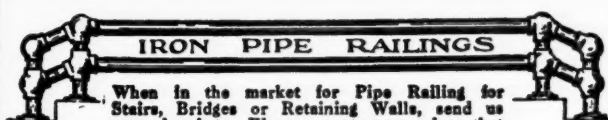
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FINANCIAL NEWS

Bond Issues Proposed

Ky., Horse Cave—City voted \$10,000 street widening bonds.

La., Kenner—Commrs. of East Jefferson Waterworks Dist. No. 1, M. M. Jones, Sec., postponed election until June 7 (originally scheduled for May 31) on \$500,000 in Seventh, Eighth and Ninth Wards of Jefferson Parish. 4-28

La., New Orleans—City, T. Semmes Walmsley, Mayor, voted \$750,000 bonds for relief of unemployed. 4-7

La., New Orleans—City, Bd. of Liquidation, City Debt, Bernard C. Shields, Sec., Room 209, City Hall Annex, opens bids May 23 for \$750,000, 5%, \$1000 denom. serial gold bonds, series of 1932.

Md., Annapolis—State, John M. Dennis, Treas., opens bids June 8 for \$1,000,000, 4½%, \$1000 denom. bridge loan of 1931.

Md., Frostburg—City, Mayor and Councilmen open bids May 19 for \$25,000 Frostburg Water Improvement Bonds of 1931; 4½%, \$1000 denom.; Fred W. Boettner, Clk.; Si-meon Green, Finance Commr. 4-21

Miss., Jackson—State, Sennett Connor, Gov., offer \$12,500,000 state of Mississippi bonds at "wide open buyers' meeting" May 19.

N. C., Graham—Alamance County Commrs., reported, passed resolution providing for sale of \$132,000 refunding bonds.

Okla., Muskogee—Muskogee County Commrs., W. H. Robins, Chmn., received no bids for \$250,000, not to exceed 5% road bonds. 4-21

Tex., Fort Worth—Tarrant County Water Control and Improvement Dist. No. 1, W. K. Stripling, Sec., 406 Capps Bldg., Fifth and Throckmorton Sts., received no bids for \$1,500,000, 5%, Series "D" bonds. 4-14

Tex., Raymondville—Willacy County Paso Real and La Jarita Consolidated School Dist. votes soon on \$15,000 building bonds.

W. Va., Charleston—State, Wm. G. Conley, Governor, plans offering road bonds.

Bond Issues Sold

Ark., Fort Smith—City Comsn. sold \$47,500 bonds of Paving Dist. No. 47 to C. A. Lick, Jr., Fort Smith, at \$42,750.

Ky., Paducah—McCracken County sold \$185,000, 6%, \$1000 denom. funding bonds to Stranahan, Harris & Co., Inc., Toledo, Ohio.

Tenn., Chattanooga—City, E. D. Bass, Mayor, sold \$100,000, 5½%, \$1000 denom. Brainerd sewer bonds at premium of \$305 to Third National Bank and Equitable Securities Co., Nashville. 4-28

Tenn., Memphis—City, D. C. Miller, Clk., sold \$600,000, 6%, \$1000 denom. refunding bonds at 101 to Commerce Securities Co., First Securities Corp., Union & Planters Co., all Memphis. 4-14

Va., Parksley—Lee Magisterial Dist., George H. Mapp, Clk., School Bd., sold \$70,000, \$1000 denom. bonds; \$25,000, State of Virginia, as 4s, and \$45,000, Frank Parsons, Jr., Capeville, as 6s. 4-7

New Financial Corporations

Fla., Williston—L. B. McLeod and associates plan establishing bank.

Md., Baltimore—Lord Baltimore Finance Co., 1219 Munsey Bldg., chartered; Samuel M. Kohn, Brooklyn, N. Y.; Arthur O. Carp, 416 N. Gay St., Baltimore.

Bank of Hickory Grove, J. S. Wilkerson, Pres., Hickory Grove, S. C., reopened.

Franklin Savings and Loan Co., Macon, Ga., opened branch at Griffith, Ga.; J. G. Woodroff, Pres.; capital \$50,000.

Financial Notes

Norfolk & Western Income

Net income of the Norfolk & Western Railway Company for March was \$1,118,954, an increase of \$328,504 compared with February and \$662,402 compared with January, thus showing an increase for two consecutive months. Compared with March, 1931, however, net income showed a decline of \$439,840. Railway operating revenues for March were \$5,597,386, an increase over February of \$473,401.

Gulf, Mobile and Northern

According to the fifteenth annual report of the Gulf, Mobile and Northern Railroad Company for the year ended December 31, 1931, total operating revenues were \$4,094,743 and operating expenses, \$3,364,400, leaving a net operating revenue of \$730,343. Operating income was \$431,521; net operating income, \$166,003; non-operating income, \$128,311; gross income, \$294,314; interest on debt and other deductions from income, \$521,385, and deficit, \$227,070. The sum of \$131,429 was expended for additions and betterments, less roadway retirements of \$35,039 and the retirement of equipment amounting to \$127,888. There was a deficit for the year of \$227,070.

Texas and Pacific Report

Operating revenues of the Texas & Pacific Railway Company for the year ended December 31, 1931, amounted to \$30,007,959, a decrease of \$7,534,342, compared with 1930, while operating expenses in 1931 were \$20,614,630, a decrease of \$5,806,648, compared with 1930. Net revenue was \$9,393,328, a decrease of \$1,727,694; railway operating income, \$7,879,608, a decrease of \$1,494,415; net railway operating income, \$5,870,317, a decrease of \$1,365,370; gross income, \$6,410,442, a decrease of \$1,332,292; balance, \$6,317,992, a decrease of \$1,360,654, and net income, \$2,041,857, a decrease of \$1,610,333. The railroad completed a number of improvements in 1931, particularly between Dallas and Fort Worth, and continued a high standard of maintenance.

Suggests Reconstruction Work Corporation

The establishment of a \$1,500,000,000 productive reconstruction work corporation to supplement the Reconstruction Finance Corporation and other agencies developed to revive business and industrial activities, was suggested by the governing board of the Associated General Contractors of America at the closing session of the annual two-day spring board meeting held last week in Washington.

In proposing the creation of the new agency it was suggested that capital be provided by the issuance of government bonds, and that loans be made at cost to state, city and other public agencies. Modernization of antiquated utility plants, improvement of public transpor-

tation facilities, city and town rehabilitation work and water and sanitary system improvements, were among the projects mentioned as best suited for outlays by the proposed reconstruction work corporation.

The bonding committee of the association was directed to work out a set-up on public works contracts which shall include the dispensing of all bonds and the qualification of the contractor, to the end that public works jobs may be awarded to responsible contractors.

The board renewed its endorsement of legislation amending the Bacon-Davis building labor wage law so as to provide for predetermination of what shall be the prevailing scales on each project. The group also urged enactment of legislation to provide for the use of uniform government contracts, the creation of an administration for public works, the establishment of a system of Federal home loan banks and repeal of the recapture clause of the Transportation Act.

Bid peddling was severely criticized and a voluntary one-price system of bidding was stressed as necessary to overcome the present evils. To this end the cooperation of subcontractors and material men in evolving a workable plan to eliminate both padded and under-cost bids, will be vigorously pressed.

Chattanooga, Tenn.—Bonds in the amount of \$100,000, to bear an interest rate of 5¼ per cent, have been sold by the City of Chattanooga to the Third National Bank of Nashville, at par and premium of \$305. Funds will be used to extend the Brainerd sewer system, which has been partially constructed. Work will be done during the summer.

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Diversified farming pays well in Florida where the farmer has the advantage of two and three crops a year from the same land.

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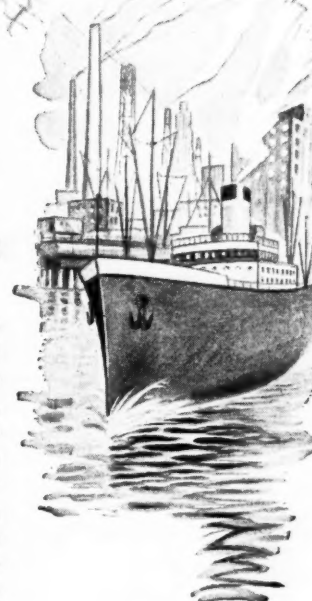
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Houston is one of the gateway cities to the resort and agricultural sections of the Texas Riviera and the Valley of the Lower Rio Grande ... Missouri Pacific Lines freight and passenger service radiates from Houston



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Via two routes to Little Rock, Memphis, St. Louis, with connections to the north and east and to Colorado and the Pacific Coast
WEST
To San Antonio, Austin, Waco, Ft. Worth, Dallas, Arizona and Southern California
SOUTH
To Galveston, Corpus Christi, the Rio Grande Valley and Mexico
EAST
To Beaumont and New Orleans



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MISSOURI PACIFIC STAGES

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BUS SERVICE NORTH - SOUTH - EAST - WEST

Metallurgical Importance of Manganese

Manganese is an important element in the ferrous metallurgical industry, more than 90 per cent of the yearly production being consumed in steel-making processes. A comprehensive survey of uses of manganese in the steel industry is being made by the Metallurgical Section of the Pittsburgh Experiment Station of the Bureau of Mines.

No satisfactory substitute has yet been found to supplant manganese in imparting certain vital properties to steels. Manganese is employed in steel-making for two distinct purposes: As a secondary deoxidizer which remains after deoxidation in sufficient quantities to improve the quality of plain-carbon steels, and as an alloy element in special steels wherein it imparts valuable properties peculiar only to such materials.

Manganese as a deoxidizer decreases the magnitude of certain objectionable properties which are due to oxides and sulphides of iron. Further, says the Bureau:

"There are two types of manganese alloy steels of commercial importance, characterized by the terms 'pearlitic' and 'austenitic.' In these alloys the manganese imparts certain valuable properties which plain-carbon steels of otherwise identical analyses do not possess. Pearlitic manganese steels with manganese up to 2 per cent are useful under conditions requiring greater strength and toughness than is possessed by a plain-carbon steel. Austenitic manganese steels with 12 to 14 per cent manganese and 1 to 1.5 per cent carbon have the peculiar property of surface hardening under impact or abrasion and are extensively used where resistance to abrasion is required combined with great strength and ductility.

"Although the United States produces 50 per cent of the total world's production of steel, unfortunately only low-grade deposits of manganese ores are available in this country. It is difficult to produce a high-grade ferro-manganese (which contains approximately 80 per cent manganese) from these ores and for this reason foreign ores are purchased for this product. However, various types of spieglers (containing approximately 20 per cent manganese) can be produced from domestic ores and these sources could be relied upon for steel production in time of necessity.

"Fortunately, the largest proportion of manganese used in the steel industry is used in making plain-carbon (low-manganese) steels. In a recent year, when total steel production in the United States was approximately 56,000,000 gross tons, 85 per cent was made in the basic open-hearth furnace. The average manganese content of basic open-hearth steels is approximately 0.50 per cent and by calculation from these figures it can be shown that approximately 240,000 gross tons of manganese was used in production of plain-carbon steels during that year. If foreign sources of supply were cut off, low-grade domestic ores could be relied upon

to supply spieglers for basic open-hearth purposes. This would take care of the larger quantities of manganese used in the steel industry. On the other hand, in the manufacture of special manganese steels, high-grade ferromanganese must be used. These steels are usually basic electric furnace products and some available supply of high-grade manganese ores must be had in producing this type of steel.

"It was previously supposed that the American manganese situation was more severe, but it can be shown that this pertains only to the special manganese steels; the domestic supply is otherwise self-sufficient."

The Southern states in which manganese occurs in some quantity include: Alabama, Arkansas, Georgia, Maryland, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia. In both Virginia and Georgia there are large deposits of low grade manganese ores, and at various times in the past development operations have been started at these mines.

Hosiery Mill Addition

Asheboro, N. C.—The Acme Hosiery Mills, Inc., are going forward with the erection of a two-story reinforced concrete building, which will be completed early in May. The Goode Construction Co., Charlotte, N. C., are general contractors. Subcontractors are as follows:

Electrical Work—Walker Electrical Co., Greensboro, N. C.

Air Conditioning and Heating—The Parks-Cramer Co., Charlotte, N. C.

Sprinkler System—W. T. Branson, Inc., Charlotte

Roofing—J. S. Wylie, Ramseur, N. C.

Plumbing—Being done by owners.

Texas Contractors to Build Texas Roads

Austin, Tex.—Contracts for Texas highway construction will hereafter be awarded only to Texas contractors, according to an order issued by the Texas Highway Commission, which defined Texas contractors as "any person, firm, association or corporation engaged in road contracting in the State of Texas and which has done work of construction or improvement of the Texas highways at least six months prior to April 12." This order does not apply to construction or improvement involving Federal funds or aid.

Veterans Hospital Contract

Perry Point, Md.—General contract to erect a nurses' home and attendants' quarters for the U. S. Veterans Hospital here, has been awarded to the J. L. Robinson Construction Co., Baltimore, at \$238,259, by the Veterans Administration, Washington. Construction under this contract will include excavation, road, walks, grading, etc., in addition to the building.

General contract to erect a ward building as an addition to the Hugh H. Young Psychopathic Ward at the Crownsville State Hospital, Waterbury, Md., has been awarded to the North-Eastern Construction Co., Baltimore; plans by the Office of Joseph Evans Sperry; Herman Doeleman, structural engineer, and James Posey, mechanical engineer, all of Baltimore.

Kudzu, on an Alabama Farm



Kudzu, a perennial legume, is said to be at least equal to alfalfa as a food for livestock. This view shows a load of kudzu hay in Mobile County, Alabama, where a bale grown on the farm of S. E. McCluer was awarded first prize for kudzu at the National Hay and Grain Show in Chicago.



PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS



Bids close June 3, 1932.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., May 6, 1932.—**SEALED BIDS**, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., June 3, 1932, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Cape Charles, Va. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. One set will be furnished builders' exchanges, chambers of commerce or other organizations who will guarantee to make them available for any subcontractor or material firm interested, and to quantify surveyors, provided a deposit of \$15.00 is made to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close May 31, 1932.

SEALED BIDS, in triplicate, subject to the conditions contained herein, will be received by the Veterans Administration, Room 764, Arlington Building, Washington, D. C., until 2:30 P. M., May 31, 1932, and then publicly opened, for furnishing all labor and materials and performing all work required for constructing and finishing complete at **VETERANS ADMINISTRATION HOSPITAL, DES MOINES, IOWA, BUILDINGS AND UTILITIES**. This work will include excavating, roads, walks, grading and drainage, reinforced concrete, hollow tile, brick work, cut stone, slate stair treads, marble work, terrazzo, floor and wall tile, rubber tile, compressed asphalt tile and linoleum floors, iron work, structural steel construction, flagpole, steel stairs, steel shelving, cabinets and partitions, shingle tile, metal and built-up roofing, lightning conductors, roof ventilators, metal lathing, plastering, sound deadening, carpentry, metal weatherstrips, insect screens, platform scales, dumbwaiter, painting, glazing, hardware, plumbing, refrigerating and ice making plant, zeolite water softening system, heating and ventilating, electrical work, electric elevators and outside distribution systems, and such other items as shown or specified. Separate bids will be received for (a) General Construction, including Radial Brick Chimney; (b) Plumbing, Heating, Electrical Work; (c) Electric Elevators; (d) Refrigerating and Ice Making Plant; and (e) Zeolite Water Softening System; all as set forth on bid form. Bids will be considered only from individuals, firms or corporations possessing satisfactory financial and technical ability, equipment and organization to insure speedy completion of the contract, and in making awards the records of bidders for expedition and satisfactory performance on contracts of similar character and magnitude will be carefully considered. At the discretion of the Administrator, drawings and specifications may be obtained upon application to the Construction Service, Room 764, Arlington Building, Washington, D. C. While no deposit will be necessary, return of the drawings and specifications within ten days after date of opening bids will be required. In case no bid is to be submitted, the return of plans and specifications, as soon as this fact has been determined and before the date for opening bids, is requested. Compliance with the requirement and with the request indicated will be considered in connection with future applications for drawings and specifications. **GEORGE E. IJAMS**, Assistant Administrator. April 22, 1932.

Bids close June 2, 1932.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., May 2, 1932.—**SEALED BIDS**, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., June 2, 1932, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Palm Beach, Fla. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931. Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$25.00 is made for each set to assure its prompt return. One set will be furnished builders' exchanges, chamber of commerce or other organizations who will guarantee to make them available for any subcontractor or material firm interested, and to quantify surveyors, provided a deposit of \$25.00 is made to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 7, 1932.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., May 3, 1932.—**SEALED BIDS**, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., June 7, 1932, for furnishing all labor and materials and performing all work for the construction complete of the U. S. post office at Glen Cove, Long Island, New York. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three (3) sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. One set will be furnished builders' exchanges, chambers of commerce or other organizations who will guarantee to make them available for any subcontractor or material firm interested and to quantify surveyors; provided a deposit of \$15.00 is made to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close May 24, 1932.

Roads and Bridges

Richmond, Va.

Sealed bids will be received at the office of Va. Dept. of Highways, Richmond, Va., 10 A. M., Tuesday, May 24, 1932, for the construction of:

Proj. No.	Type	Excava.	Surfacing
592	4 Mac.S.T.	2,000	43,451.
Tons Cover Material \$70, gal. Bit. Material 28,969, and Alternate Concrete 43,451			
652	Br. 413 ft., Cu. Yds. AA Conc. 86.1, A. Conc. 662 lbs., Reinf. Steel 59,315, Struct. Steel 261,900, lin. ft., treated piles 7720, Untreated Piles 6650, lbs. Machinery 12,000, f.b.m. Treated Lumber 45,500, lbs. Traffic Treads 8100.		
Proj. 661	—4.7 mi., type Gr.&Dr.&Br.s., excava. 93,276, Cu. Yds. surfacing A Conc. 162, B Conc. 364, lbs. Reinf. Steel 18,395.		
Proj. 752	—9.2 mi., type Soil&Br. excava. 154,845, surfacing 30,000 Cu. Yds. A Conc. 489, B Conc. 178, lbs. Reinf. Steel 60,928.		
Proj. 769B1	—174 ft. Br., Cu. Yds. A Conc. 313, lbs. Reinf. Steel 47,350, lbs. Struct. Steel 78,000.		
Proj. 769B2	—254 ft. Br., Cu. Yds. A Conc. 544, lbs. Reinf. Steel 74,580, lbs. Struct. Steel 96,525.		
Proj. 20	—8 mi., type Sheet or Rock Asphalt, excava. 8000, surfacing 70,000; or type 1-2, 53,000 Conc.		

Details obtainable upon request.

Bids close May 17, 1932.

Street Paving

Richmond, Va.

SEALED PROPOSALS WILL BE RECEIVED AT THE OFFICE OF THE DIRECTOR OF PUBLIC WORKS, RICHMOND, VA., UNTIL 3 O'CLOCK P. M. MAY 17, 1932, for the Street Paving, including the following items:

9,800 cubic yards excavation.
26,500 square yards sheet asphalt or Warrenite-Bitolithic Pavement on a 6-inch concrete base.
5,900 square yards of one-course concrete pavement.

Form of Proposal, Plans and Specifications can be obtained on application.

A charge of \$2.50 will be made for these plans, etc., which sum will not be refunded.

A **CERTIFIED CHECK** for the amount stated (\$3500.00) on proposals must accompany each bid as a guaranty of execution of contract. The Director of Public Works reserves the right to reject any or all bids.

R. KEITH COMPTON,
Director Public Works,
City Hall.

Bids close May 17, 1932.

Maryland Highway Work

DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building five sections of State Highway as follows:

Anne Arundel County, Contract No. AA-108-74—One section of State Highway along the Muddy Creek Road from the end of contract No. AA-98 toward the Quaker Burying Ground, for a distance of 2.07 miles. (Gravel)

Frederick County, Contract No. F-190-52—One section of State Highway along the Meyersville-Wolfsville Road from the end of contract F-82 near Middlepoint toward Wolfsville for a distance of 1.67 miles (Concrete)

Harford County, Contract No. H-118-44—Federal Aid Project No. 244—One section of State Highway from Bagley on the Harford Road to Shipley's Corner on the Philadelphia Road, for a distance of 5.17 miles (Macadam)

Harford County, Contract No. H-144-42—One section of State Highway from Fallston to the Harford Road at Bagley for a distance of 1.35 miles (Macadam Resurfacing)

Kent County, Contract No. K-71-211—One section of State Highway along Cross Street in Chestertown from Maple Avenue to High Street for a distance of 0.14 mile (Concrete)

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M. on the 17th day of May, 1932, at which time and place they will be publicly opened and read. **PREQUALIFICATION OF BIDDERS REQUIRED.**

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, for each separate project, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 3rd day of May, 1932.

G. CLINTON UHL, Chairman.
L. H. STEWART, Secretary.

Bids close May 20, 1932.

Highway Signs

Richmond, Va.
Sealed bids will be received at the office of the Va. Dept. of Highways, Richmond, Va., 10 A. M., Friday, May 20, 1932, for furnishing 1105 WHITE CRYSTAL BUTTON TYPE REFLECTOR HIGHWAY SIGNS. Bids must be submitted on proposal furnished by State. Details will be furnished upon request.

Bids close May 17, 1932.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., May 3, 1932.—Notice is hereby given that the time for opening bids for furnishing all labor and materials and performing all work for excavations and foundations of the U. S. court house (new) at New York, N. Y., is hereby postponed from 3 p. m., May 5, 1932, until 3 p. m., May 17, 1932. JAMES A. WETMORE, Acting Supervising Architect.

Bids close May 24, 1932.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., April 20, 1932.—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., May 24, 1932, for furnishing all labor and materials and performing all work for the remodeling and rehabilitation of the U. S. post office at Nanticoke, Pa. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798) and Executive Order dated January 19, 1932. Drawings and specifications, not exceeding one set, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor. JAS. A. WETMORE, Acting Supervising Architect.

Bids close May 17, 1932.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., April 19, 1932.—SEALED BIDS in duplicate subject to the conditions contained herein will be publicly opened in this office at 3 p. m., May 17, 1932, for furnishing all labor and materials and performing all work for the construction of the new U. S. post office, etc., Building at Daytona Beach, Fla. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931, (Public No. 798). Drawings and specifications not exceeding three sets may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$25.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

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FOR SALE—TIMBER: Several million feet of Original Growth Long Leaf Virgin Timber suitable for Railroad use, or where large sizes are required. Favorable logging conditions. Located by Railroad Station and paved road. Address Drawer 270, Columbia, South Carolina.

BLACK WALNUT LOGS**FOR SALE**

Black walnut logs, two cars or more, located two miles out on hard road. W. C. THOMISON, Fayetteville, Tenn.

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VIRGINIA

4 UNUSUAL VIRGINIA PROPERTIES
(1) A magnificent fertile blue grass estate. (2) The mountain lodge of Sherwood Anderson. (3) An ideal club or recreational property; lodge, pavilion, lake, pool, hunting and fishing. (4) A modern colonial home. All within night's ride of eastern cities. Write for booklet.

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GAME PRESERVE

BIG GAME PRESERVE, and year round resort, over 25,000 acres. 200 acre land interest near valuable minerals to each member. Beautiful prospectus free. Chisos Mountains Club, 710 Linz Bldg., Dallas, Tex.

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WE WILL SAVE YOU 40% on construction of your ice and cold storage plant. Many plants designed by us are producing ice under \$2.00 per ton and our cold storage plants eliminate Sunday and night running of compressors. Inquiries solicited. Mayer Construction Co., 3850 Lansdowne Ave., Cincinnati, Ohio.

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IF YOU HAVE SOMETHING with merit to be made of iron, can manufacture and market same for you. Write P. O. Box 253, Sheffield, Alabama.

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Filters and equipment overhauled and rebuilt. Twenty Five Years experience with three of the Largest Filter Companies. If contemplating any Filter Plant changes or improvements of any kind, let me save you money. Reasonable salary. Can go anywhere. Address Chas. Harding, 4411 W. Broadway, Louisville, Ky.

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RATES: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

Rates for Special Contract:

100 lines 28c a line
300 lines 26c a line
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TERMS: For transient advertising cash with order; check, post office or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

CONDITIONS: No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

INDUSTRIES WANTED

WHEELING, W. VA., has ideal factory buildings available. Excellent rail and river location. Steel district. Co-operative assistance from legal non-profit organization. Write OHIO VALLEY INDUSTRIAL CORPORATION.

WAREHOUSE SPACE

WAREHOUSE SPACE FOR RENT—Side track available—cost directly in proportion to space used. HORACE K. HOUSTON, Box 2701, Memphis, Tennessee.

WAREHOUSE SPACE with trackage facilities available for lease at low rental. Brick building, concrete floors, low insurance rate. Steam and refrigeration available. TRIPLE "XXX" CO., Galveston, Tex.

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JACKSONVILLE, FLA., WANTS YOU. Whole block industrial site 172x320, near center city; sale or lease. All improvements, railroad spur, steamships to many foreign ports, a very low electrical rate, taxes cut to the bone. Address BOX 504, JACKSONVILLE, FLA.

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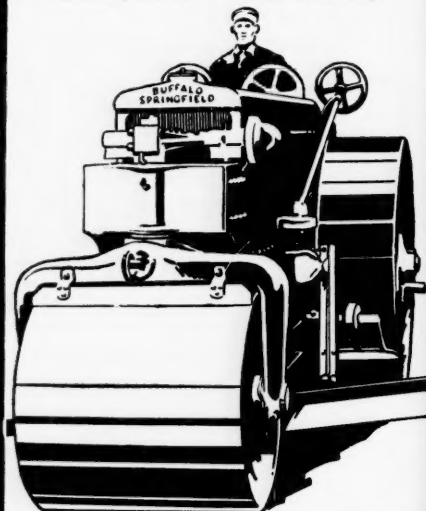
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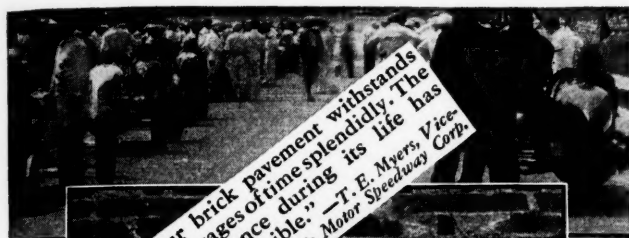
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Ohio Power Shovel Co., Lima, Ohio.

—(Crawler.)

Austin-Western Road Machinery Co., Chicago, Ill.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

—(Crawling Tractor.)

Austin-Western Road Machinery Co., Chicago, Ill.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

—(Electric Traveling.)

Shepard Niles Crane & Hoist Corp., Mont-tour Falls, N. Y.

—(Full Circle Steam and Electric.)

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

—(Gasoline.)

Austin-Western Road Machinery Co., Chicago, Ill.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

—(Jib.)

Shepard Niles Crane & Hoist Corp., Mont-tour Falls, N. Y.

—(Locomotive.)

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

—(Material Handling.)

Austin-Western Road Machinery Co., Chicago, Ill.

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

—(Travelling, hand power.)
Shepard Niles Crane & Hoist Corp., Mont-tour Falls, N. Y.
Wright Mfg. Co., Bridgeport, Conn.

CREOSOTE OIL.

American Creosote Wks., New Orleans, La.
Ayer & Lord Tie Co., Chicago, Ill.

CREOSOTED WOOD MATERIALS.

American Creosote Wks., New Orleans, La.
Atlantic Creosoting Co., Norfolk, Va.
Ayer & Lord Tie Co., Chicago, Ill.
Century Wood Preserving Co., Balto., Md.
Eppinger & Russell Co., New York, N. Y.
Gulf States Creos. Co., Hattiesburg, Miss.
National Lumber & Creosoting Co., Texarkana, Ark.-Tex.

CROSS ARMS, TIES (Creosoted.)

American Creosote Wks., New Orleans, La.
Atlantic Creosoting Co., Norfolk, Va.
Ayer & Lord Tie Co., Chicago, Ill.
Century Wood Preserving Co., Balto., Md.
Eppinger & Russell Co., New York, N. Y.

CRUSHED STONE (Road Concrete and Ballast.)

American Limestone Co., Knoxville, Tenn.
Boxley & Co., W. W., Roanoke, Va.
Culbert & Sons, W. F., Marion, Va.

CRUSHERS (Coal and Coke.)

Fuller Lehigh Co., Fullerton, Pa.
Steward Machine Co., Chas. C., Birmingham, Ala.

—(Rock.)

Grundler Crusher & Pulverizer Co., St. Louis, Mo.

CRUSHING and Pulverizing Machinery.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Austin-Western Road Machinery Co., Chicago, Ill.
Fuller Lehigh Co., Fullerton, Pa.
Grundler Crusher & Pulverizer Co., St. Louis, Mo.

CULVERT PIPE (Cast Iron.)

Cast Iron Pipe Research Assn., Chicago, U. S. Pipe & Foundry Co., Burlington, N. J.

—(Corrugated Metal.)

American Sheet & Tin Plate Co., Pittsburgh, Pa.

CYLINDERS (Compressed Air, Gas.)

National Tube Co., Pittsburgh, Pa.

DESKS (School.)

Andrews Co., A. H., Chicago, Ill.

DITCHING MACHINERY.

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

DOORS (Cabinet Woodwork.)

Mitchell Mfg. Co., Robert, Cincinnati, O.

—(Fireproof, Air Chamber.)

Wilson Corp., The J. G., New York.

—(Kalamine and Hollow Metal.)

Cincinnati Mfg. Co., Cincinnati, O.

—(Rolling, Steel and Wood.)

Wilson Corp., The J. G., New York.

—(Vault.)

York Safe & Lock Co., York, Penna.

DRAFTSMEN'S SUPPLIES.

Weber Co., Inc., F., Philadelphia, Pa.

DRAGLINE EXCAVATORS.

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

DREDGING (River and Harbor Improvement.)

Arundel Corp., The, Baltimore, Md.
Atlantic Gulf and Pacific Co., New York.
Shell Producers Co., Tampa, Fla.

DRILLS (Diamond and Shot Core.)

Sprague & Henwood, Inc., Scranton, Pa.

—(Oil and Artesian Well.)

Virginia Machinery & Well Co., Inc., Richmond, Va.

DRINKING FOUNTAINS.

Rundle-Spence Mfg. Co., Milwaukee, Wis.

DYNAMITE (Industrial and Agricultural.)

Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

ECONOMIZERS (Fuel.)

Babcock & Wilcox Co., New York, N. Y.

ECONOMISTS (Administrative.)

Brookshire Economic Service, New York.

ELECTRICAL Instruments and Supplies.

General Electric Co., Schenectady, N. Y.
Western Electric Co., New York, N. Y.

ELECTRICAL MACHINERY

(Generators, Motors, etc., New.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Fairbanks, Morse & Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Partridge, Arthur S., St. Louis, Mo.
Rockford Power Machy. Co., Rockford, Ill.

—(Generators, Motors, etc., Used.)

Delta Equipment Co., Philadelphia, Pa.
Electric Service Co., Cincinnati, Ohio.
General Electric Co., Schenectady, N. Y.
O'Brien Machinery Co., The, Phila., Pa.
Reading Engineering Wks., Reading, Pa.
Rockford Power Machy. Co., Rockford, Ill.

—Repairing (Motors, Generators, etc.)

Electric Service Co., Cincinnati, Ohio.

ELECTRIC LIGHTING.

General Electric Vapor Lamp Co., Hoboken, N. J.
Westinghouse Lamp Co., New York City.

ELECTRIC SHOVELS (See Shovels.)**ELECTRICAL MACHINERY**

(Generators, Motors, etc., New.)

Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.

ELEVATORS (Electric.)

Millner Co., St. Louis, Mo.

—(Hand and Belt Power.)

Millner Co., St. Louis, Mo.

ENGINEERS (Airports.)

Lockwood Greene Engrs., Inc., New York.

—(Appraisal.)

Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.
White Engineering Corp., J. G., New York.

Wiedeman and Singleton, Inc., Atlanta.

—(Bridge.)

Gardner & Howe, Memphis, Tenn.
Hardaway Contracting Co., Columbus, Ga.
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.

Steel & Leiby, Knoxville, Tenn.
Virginia Bridge & Iron Co., Roanoke, Va.
Wiley & Wilson, Lynchburg, Va.

—(Chemical.)

Dow & Smith, New York, N. Y.
Picard Laboratories, Birmingham, Ala.

—(Civil.)

Gardner & Howe, Memphis, Tenn.
Harrub Engr. Co., C. N., Nashville, Tenn.
Main, Inc., Chas. T., Boston, Mass.
Saxe, Van Rensselaer P., Baltimore, Md.
Spring, Chas. Herbert, Greensboro, N. C.
Steel & Leiby, Knoxville, Tenn.
White Engineering Corp., J. G., New York.

Wiley & Wilson, Lynchburg, Va.

—(Consulting.)

Barstow & Co., W. E., New York City.
Converse & Co., J. B., Mobile, Ala.
Engineering Service Corp., Houston, Tex.
Goder, Joseph, Chicago, Ill.
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.

Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Saxe, Van Rensselaer P., Baltimore, Md.
Smith, Elroy G., Augusta, Ga.
White Engineering Corp., J. G., New York.

Wiedeman and Singleton, Inc., Atlanta, Ga.
Wiley & Wilson, Lynchburg, Va.

—(Cost.)

Ernst & Ernst, New York, N. Y.

—(Dams.)

Alpaugh & Sons, Chas. W., Manassas, Va.
Barstow & Co., W. S., New York City.
Byllesby Engineering and Management Corp., Chicago, Ill.

Gardner & Howe, Memphis, Tenn.
Hardaway Contracting Co., Columbus, Ga.
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.

Lee Engineering Corp., William S., Charlotte, N. C.
Main, Inc., Chas. T., Boston, Mass.
White Engineering Corp., J. G., New York.

Wiley & Wilson, Lynchburg, Va.

—(Drainage and Irrigation.)

Huey, S. E., Monroe, La.

—(Efficiency.)

Ernst & Ernst, New York, N. Y.

—(Electrical.)

Engineering Service Corp., Houston, Tex.
Lee Engineering Corp., William C., Charlotte, N. C.

Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Webb Electric Co., Anderson, S. C.
Wiley & Wilson, Lynchburg, Va.

—(Electric Light and Power.)

Barstow & Co., W. S., New York City.

Byllesby Engineering and Management Corp., Chicago, Ill.

Lee Engineering Corp., William S., Charlotte, N. C.

Main, Inc., Chas. T., Boston, Mass.
White Engineering Corp., J. G., New York, N. Y.

Wiley & Wilson, Lynchburg, Va.

—(Gas.)

Byllesby Engineering and Management Corp., Chicago, Ill.

Huey, S. E., Monroe, La.

—(Geological.)

Froehling & Robertson, Inc., Richmond, Va.

—(Harbor Improvements.)
Engineering Service Corp., Houston, Tex.

—(Heating.)

Wiley & Wilson, Lynchburg, Va.

—(Hydraulic.)

Alpaugh & Sons, Chas. W., Manassas, Va.
Main, Inc., Chas. T., Boston, Mass.
Wiley & Wilson, Lynchburg, Va.

—(Hydro-electric.)
Alpaugh & Sons, Chas. W., Manassas, Va.
Barstow & Co., W. S., New York City.
Byllesby Engineering and Management Corp., Chicago, Ill.

Lee Engineering Corp., William S., Charlotte, N. C.

Main, Inc., Chas. T., Boston, Mass.
White Engineering Corp., J. G., New York, N. Y.

Wiley & Wilson, Lynchburg, Va.

—(Ice and Refrigerating.)
Engineering Service Corp., Houston, Tex.

—(Industrial Plants.)
Barstow & Co., W. S., New York City.
Consoer, Older & Quinlan, Inc., Chicago.

Converse & Co., J. B., Mobile, Ala.
Gardner & Howe, Memphis, Tenn.
Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.
Precher & Co., Inc., G. Lloyd, Atlanta.

Smith, Elroy G., Augusta, Ga.
Wiley & Wilson, Lynchburg, Va.

—(Industrial Survey.)
Converse & Co., J. B., Mobile, Ala.
Lockwood Greene Engrs., Inc., New York.

—(Inspection and Tests.)
Dow & Smith, New York, N. Y.
Froehling & Robertson, Inc., Richmond, Va.
Hunt Co., Robert W., Chicago, Ill.
McCallum Inspection Co., Norfolk, Va.
Picard Laboratories, Birmingham, Ala.

—(Lighting.)
Byllesby Engineering and Management Corp., Chicago, Ill.

General Electric Vapor Lamp Co., Hoboken, N. J.

Westinghouse Lamp Co., New York City.

Wiley & Wilson, Lynchburg, Va.

—(Mechanical.)
Engineering Service Corp., Houston, Tex.

Lee Engineering Corp., William S., Charlotte, N. C.

Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.
Wiley & Wilson, Lynchburg, Va.

—(Mining. See Engineers, Geological.)

—(Municipal.)
Consoer, Older & Quinlan, Inc., Chicago.

Dow & Smith, New York, N. Y.

Harrub Engr. Co., C. N., Nashville, Tenn.

Huey, S. E., Monroe, La.

McCrary Co., The J. B., Atlanta, Ga.

Wiley & Wilson, Lynchburg, Va.

—(Paving and Roads.)
Dow & Smith, New York, N. Y.

Harrub Engr. Co., C. N., Nashville, Tenn.

—(Printing and Newspaper Plants.)
Lockwood Greene Engrs., Inc., New York.

—(Public Service Properties.)
Barstow & Co., W. S., New York City.

Byllesby Engineering and Management Corp., Chicago, Ill.

Main, Inc., Chas. T., Boston, Mass.

White Engineering Corp., J. G., New York.

—(Railroad.)

Huey, S. E., Monroe, La.

—(Reinforced Concrete Bridge Buildings, etc.)
Gardner & Howe, Memphis, Tenn.

Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

Saxe, Van Rensselaer P., Baltimore, Md.

Steel & Leiby, Knoxville, Tenn.

—(Sanitary.)
Whitman, Requaard & Smith, Balto., Md.

Wiley & Wilson, Lynchburg, Va.

—(Sewage Disposal Plants.)
McCrary Co., The J. B., Atlanta, Ga.

Wiedeman and Singleton, Inc., Atlanta.

Wiley & Wilson, Lynchburg, Va.

—(Sewerage and Waterworks.)
Consoer, Older & Quinlan, Inc., Chicago.

Hardaway Contracting Co., Columbus, Ga.

William S. Chap-
ton, Mass.
J. G. New
g. Va.
Management
Richmond, Va.
Houston, Tex.
Va.
Manassas, Va.
n. Mass.
E. Va.
Manassas, Va.
New York City
Management
William S. Chap-
ton, Mass.
J. G. New
Va.
ating.)
Houston, Tex.
New York City
Inc., Chicago
Ohio, Ala.
New York
on, Mass.
oyd, Atlanta
Va.
Management
Co. Hob-
York City
Va.
Houston, Tex.
n. S. Char-
New York
Mass.
Va.
eers, Ge-
Chicago
Y.ville, Tenn.
Ga.
Va.
Y. Tenn.
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agement
Mass.
G. New
Bridges
nn.
New York
more, Md.
to, Md.
Ga.
Atlanta
works.)
Chicago
bus, Ga.

Harrub Engr. Co., C. N., Nashville, Tenn.
White Engr. Corp., J. G., New York, N. Y.
Wiedeman & Singleton, Inc., Atlanta, Ga.
Wiley & Wilson, Lynchburg, Va.

—(Structural.)
Ruey, S. E., Monroe, La.
Lockwood Greene Engrs., Inc., New York.
Saxe, Van Rensselaer P., Baltimore, Md.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Textile Mills.)
Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.

—(Ventilating and Heating.)
Wiley & Wilson, Lynchburg, Va.

—(Water Supply.)
Wiley & Wilson, Lynchburg, Va.

ENGINES (Compressed Air.)
Dake Engine Co., Grand Haven, Mich.

—(Diesel Type.)
Fairbanks, Morse & Co., Chicago, Ill.
Superior Engine Co., Springfield, O.

—(Gas and Gasoline.)
Sterling Engine Co., Buffalo, N. Y.

—(Marine.)
Fairbanks, Morse & Co., Chicago, Ill.

—(Steam.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Schaffeld's Sons Co., J. S., Macon, Ga.

ENVELOPES.
Young & Selden Co., Baltimore, Md.

ESTIMATORS (Building & Con-
struction.)
Spring, Chas. Herbert, Greensboro, N. C.

EXCAVATING MACHINERY.
Austin-Western Road Machinery Co., Chi-
cago, Ill.
Northwest Engineering Co., Chicago, Ill.
Owen Bucket Co., The, Cleveland, Ohio.

EXCAVATORS (Clamshell and
Orange Peel.)
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

—(Dragline.) See Dragline Ex-
cavators.)

—(Trench.)
Ohio Power Shovel Co., Lima, Ohio.

EXPANSION JOINTS (Road and
Street.)
Carey Co., Philip, Lockland, Cincinnati,
Ohio.

EXPLOSIVES.
Du Pont de Nemours & Co., Inc., E. I.,
Wilmington, Del.

FACTORY Management Systems.
Ernst & Ernst, New York, N. Y.

FEED-WATER HEATERS and
Purifiers.
American Water Softener Co., Phila., Pa.
International Filter Co., Chicago, Ill.

FENCING, ENTRANCE GATES
(Iron, Steel and Wire.)
American Steel and Wire Co., Balto., Md.
Atlantic Steel Co., Atlanta, Ga.
Cyclone Fence Co., Waukegan, Ill.

FENCING (Field and Industrial,
Wire Woven.)
American Steel and Wire Co., Balto., Md.
Cyclone Fence Co., Waukegan, Ill.
Gulf States Steel Co., Birmingham, Ala.

FERTILIZER Mixing Plants.
Grumder Crusher & Pulverizer Co., St.
Louis, Mo.

FILTER (For Domestic and
Industrial Purposes.)
American Water Softener Co., Phila., Pa.
Bacharach & Co., E. W., Kansas City,
Mo.
International Filter Co., Chicago, Ill.
Roberts Filter Mfg. Co., Darby (Phila.).

FINANCING.
Electric Bond & Share Co., New York.

FIREPROOF Doors and Shutters
Wilson Corp., The J. G., New York City.

FITTINGS (Wire Rope.)
American Steel & Wire Co., Chicago, Ill.
Roebbling's Sons Co., John A., Trenton,
N. J.

FLANGES (Iron and Steel.)
Dart Mfg. Co., E. M., Providence, R. I.
U. S. Pipe & Foundry Co., Burlington,
N. J.

FLOOR (Asphalt Mastic.)
Barber Asphalt Co., Philadelphia, Pa.

—(Northern Hard Maple.)
Holt Hardwood Co., Oconto, Wis.

—(Open Steel.)
Kerlow Steel Flooring Co., Jersey City,
N. J.

FLOOR Plates and Stair Treads.
Central Iron & Steel Co., Harrisburg, Pa.

FLOORING (Laid and Finished.)
Osborne, Earl N., Roanoke, Va.

FORMED PRODUCTS (Roofing.)
American Rolling Mill Co., Middletown, O.

FOUNDRIES and Machine Shops.
General Machine Works, York, Pa.
Glamorgan Pipe & Fdy. Co., Lynchburg,
Va.
Richmond Foundry & Mfg. Co., Rich-
mond, Va.

FOUNDRY Equipment and Sup-
plies.
Hill & Griffith Co., Cincinnati, O.

FOUNDED FACINGS (Talc and
Soapstone.)
Hill & Griffith Co., Cincinnati, O.

FURNACES (Water-Cooled.)
Fuller Lehigh Co., Fullerton, Pa.

GALVANIZED Products.
Cattle & Bros., Jos. P., Philadelphia, Pa.

—Steel and Iron.
American Rolling Mill Co., Middletown, O.
American Sheet & Tin Plate Co., Pitts-
burgh, Pa.

GAS (Domestic, Industrial Use.)
American Gas Assn., New York, N. Y.
Associated Gas & Elec. System, New
York, N. Y.

GAS HOLDERS.
Chattanooga Boiler & Tank Co., Chatta-
nooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.
McClintic-Marshall Corp., Bethlehem, Pa.

GASOLINE and KEROSENE.
Gulf Refining Co., Pittsburgh, Pa.

GEARS.
Earle Gear & Machine Co., Phila., Pa.
General Electric Co., Schenectady, N. Y.

GENERATORS, MOTORS (New.)
General Electric Co., Schenectady, N. Y.
Westinghouse Electric & Mfg. Co., Pitts-
burgh, Pa.

—(Used.)
O'Brien Machinery Co., Phila., Pa.

GEOLOGISTS. (See Engineers
Geological.)

GLASS. (Window.)
Pittsburgh Plate Glass Co., Pittsburgh.

GRADERS (Elevating.)
Austin-Western Road Machinery Co., Chi-
cago, Ill.
Caterpillar Tractor Co., Peoria, Ill.
Gallon Iron Wks. & Mfg. Co., Gallon, O.

GRANITE (Building and Monu-
mental.)
Gardner Brothers, Salisbury, N. C.
North Carolina Granite Corp., The, Mount
Airy, N. C.

GRATES and Grate Bars.
Schaffeld's Sons Co., J. S., Macon, Ga.

GRATING (Area, Flooring, Side-
walk.)
Kerlow Steel Flooring Co., Jersey City,
N. J.

GRAVEL (Roofing and Road.)
American Limestone Co., Knoxville, Tenn.
Arundel Corp., The, Baltimore, Md.

Boxley & Co., W. W., Roanoke, Va.
Friend & Co., Inc., Petersburg Va.

GREASE Cups.
Lunkenheimer Co., The, Cincinnati, O.

GRILLES (Brass, Bronze, Steel,
etc.)
Manhattan Perforated Metal Co., Inc.,
Long Island City, N. Y.

GRINDERS WHEELS.
Carborundum Co., Niagara Falls, N. Y.

GUARD RAIL (Road.)
National Traffic Guard Co., Atlanta, Ga.

GUNPOWDER.
Du Pont de Nemours & Co., E. I.,
Wilmington, Del.

GUNS (Hydraulic.)
Georgia Iron Works, Augusta, Ga.

HARBOR IMPROVEMENTS.
Arundel Corp., Baltimore, Md.
Atlantic, Gulf & Pacific Co., New York.

HEATERS (Asphalt.)
Honhorst Co., Jos., Cincinnati, O.

HEATING Apparatus (Engineers
and Contractors.)
Poe Piping & Heating Co., Greenville,
S. C.

HOISTS (Chain.)
Cleveland Crane & Engr. Co., Wickliffe, O.
Wright Mfg. Co., Bridgeport, Conn.

—(Electric, Gasoline.)
Dake Engine Co., Grand Haven, Mich.

—(Steam.)
Dake Engine Co., Grand Haven, Mich.

HOTELS.
Southern Hotel, The, Baltimore, Md.

HYDRANTS (Fire.)
Ludlow Valve Mfg. Co., The, Troy, N. Y.
Myers & Bros. Co., The, F. E., Ashland,
Ohio

HYDRO - ELECTRIC POWER
COMPANIES (Offering Indus-
trial and Commercial Oppor-
tunities.)
Crisp County Power Commission, Cor-
dele, Ga.
Seaboard Public Service Co., Alexandria,
Va.

INCINERATORS.
Brooks-Fisher Co., Atlanta, Ga.
D-N Corporation, New York, N. Y.
Goder, Joseph, Chicago, Ill.

INCORPORATORS.
Delaware Registration Trust Co., Wil-
mington, Del.

INSULATING Materials
General Electric Co., Schenectady, N. Y.

—Quilt.
Cabot, Inc., Samuel, Boston, Mass.

INSURANCE (Group Pension).
Prudential Insurance Co., Newark, N. J.

INVESTMENT SECURITIES.
Electric Bond & Share Co., New York.

IRON.
—(Ingot, for Culverts, etc.)
American Rolling Mill Co., Middletown, O.

JAIL CELLS.
Roanoke Iron & Bridge Wks., Roanoke,
Va.

JOINTS (Pipe.)
Leadite Co., Philadelphia, Pa.

KETTLES (Pavers and Roofers.)
Honhorst Co., Jos., Cincinnati, O.

LADDERS (Rolling.)
Myers & Bros. Co., The, F. E., Ashland, O.

LAMPS (Incandescent.)
General Electric Vapor Lamp Co., Hobo-
ken, N. J.

Western Electric Co., New York, N. Y.
Westinghouse Lamp Co., New York City.

LIGHTING (Factory and Mill.)
General Electric Vapor Lamp Co., Hobo-
ken, N. J.
Westinghouse Lamp Co., New York City.

—Fixtures (Electric.)
Western Electric Co., New York City.
Westinghouse Lamp Co., New York City.

LININGS (Flue, Fire Clay.)
Lee Clay Products Co., Clearfield, Ky.
Owensboro Sewer Pipe Co., Owensboro, Ky.

—(Tube Mill.)
Fuller Lehigh Co., Fullerton, Pa.

LITHOGRAPHERS and EN-
GRAVERS.
Smith & Son Co., Oscar T., Balto., Md.
Young & Selden Co., Baltimore, Md.

LOADING and UNLOADING
MACHINERY (Portable.)
Northwest Engineering Co., Chicago, Ill.

LOCOMOTIVES. (Gasoline.)
Whitcomb Locomotive Co., Rochelle, Ill.

—(Industrial.)
Southern Iron & Equipment Co., Atlanta.
Whitcomb Locomotive Co., Rochelle, Ill.

—(Mining.)
Whitcomb Locomotive Co., Rochelle, Ill.

—(Railway.)
Southern Iron & Equipment Co., Atlanta.
Whitcomb Locomotive Co., Rochelle, Ill.

LUBRICANTS.
Gulf Refining Co., Pittsburgh, Pa.

LUBRICATORS (Force Feed.)
Lunkenheimer Co., The, Cincinnati, O.

LUMBER (Creosoted.)
Amer. Creosote Wks., Inc., New Orleans.
Atlantic Creosoting Co., Norfolk, Va.
Ayer & Lord Tie Co., Inc., Chicago.
Century Wood Preserving Co., Balto., Md.
Eppinger & Russell Co., New York, N. Y.
Gulf States Creos. Co., Hattiesburg, Miss.
National Lumber & Creosoting Co., Tex-
arkana, Ark.-Tex.

MACHINERY (Special.)
Bertsch & Co., Cambridge City, Ind.
Earle Gear & Machine Co., Phila., Pa.
General Machine Works, York, Pa.
Gerding Bros., Cincinnati, O.

MACHINERY and Supplies (New
and Used.)
Electric Service Co., Cincinnati, Ohio.
Marine Metal & Supply Co., New York.
O'Brien Machinery Co., The, Phila., Pa.
Partridge, Arthur S., St. Louis, Mo.
Reading Engineering Wks., Reading, Pa.

MACHINE TOOLS. (Used.)
Delta Equipment Co., Philadelphia, Pa.
O'Brien Machinery Co., Philadelphia, Pa.

MAIL CHUTES.
Cutler Mail Chute Co., Rochester, N. Y.

MARBLE (Producers and Manu-
facturers.)
Georgia Marble Co., The, Tato, Ga.

METAL Cutting Machinery.
Earle Gear & Machine Co., Phila., Pa.

METAL STAMPING.
Gerding Bros., Cincinnati, O.

MIXERS (Plaster and Mortar.)
Dunning & Boshert Press Co., Syracuse,
N. Y.
Jaeger Machine Co., Columbus, Ohio.

MOTORS (Electric.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Armstrong & Bros. Co., R. S., Atlanta, Ga.
Fairbanks, Morse & Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Western Electric Co., New York City
Westinghouse Electric & Mfg. Co., Pitts-
burgh, Pa.

MOTOR TRUCKS.
International Harvester Co. of America,
Inc., Chicago, Ill.

NAILS and Spikes.
American Steel & Wire Co., Balto., Md.
Tennessee Coal, Iron & Railroad Co.,
Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngs-
town, Ohio.

OIL (Fuel and Gas.)

Gulf Refining Co., Pittsburgh, Pa.

Cups.

Lunkenheimer Co., The, Cincinnati, O.

ORE-WASHING MACHINERY.

Georgia Iron Works, Augusta, Ga.

ORNAMENTAL Bronze Work.

Heath Co., J. S., Waukegan, Ill.

ORNAMENTAL Iron Work.

Austin Bros. Bridge Co., Atlanta, Ga.
 Dietrich Bros., Baltimore, Md.
 Roanoke Iron & Bridge Wks., Roanoke, Va.
 Sneed Architectural Iron Works, Louisville, Ky.
 Virginia Bridge & Iron Co., Roanoke, Va.

ORNAMENTAL Metal Work.(Bronze, Iron, Steel, etc.)
Cincinnati Mfg. Co., Cincinnati, O.**PAINT (Preservative.)**

Cabot, Inc., Samuel, Boston, Mass.

PANELBOARDS.

Adam Electric Co., Frank, St. Louis.

PARTITIONS (Sectionfold, Rolling, Wood.)

Wilson Corp., The, J. G., New York.

PATENT ATTORNEYS.

Buck, Sterling P., Washington, D. C.
 Coleman, Watson E., Washington, D. C.
 Eaton, Paul B., Charlotte, N. C.
 Barnett, Edward C., Washington, D. C.
 Seymour & Bright, Washington, D. C.

PAVING (Asphaltic Concrete.)

Culbert & Sons, W. F., Marion, Va.

PAVING Blocks (Creosoted Wood.)

American Creosote Works, New Orleans.
 Ayer & Lord Tie Co., Chicago, Ill.
 Century Wood Preserving Co., Balto., Md.

PENSIONS (Insurance.)

Prudential Insurance Co., Newark, N. J.

PENSTOCKS.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
 Chicago Bridge & Iron Wks., Birmingham.
 Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
 Smith Co., S. Morgan, York, Pa.

PERFORATED METAL.

Erdie Perforating Co., Rochester, N. Y.
 Harrington & King Perf. Co., Chicago.
 Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.
 Mundi & Sons, Charles, Jersey City, N. J.

PETROLEUM REFINERS.

Gulf Refining Co., Pittsburgh, Pa.

PIG-IRON.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

PILES, POSTS, Poles (Creosoted.)

American Creosote Wks., New Orleans, La.
 Atlantic Creosoting Co., Norfolk, Va.
 Ayer & Lord Tie Co., Chicago, Ill.
 Century Wood Preserving Co., Balto., Md.
 National Lumber & Creosoting Co., Texarkana, Ark.-Tex.

PILING—(Steel Sheet.)

Carnegie Steel Co., Pittsburgh, Pa.

—(Yellow Pine.)

Century Wood Preserving Co., Balto., Md.

PIPE.

Albert & Davidson Pipe Corp., Brooklyn, N. Y.
 Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.
 Birmingham Boiler & Engr. Co., Birmingham, Ala.
 Central Pipe & Supply Co., Charleston, W. Va.
 Greenpoint Iron & Pipe Co., Brooklyn, N. Y.
 Maryland Pipe & Steel Corp., Baltimore, Md.
 McDowell Pipe Corp., Brooklyn, N. Y.
 National Tube Co., Pittsburgh, Pa.
 Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
 Standard Piping & Fitting Co., Phila.
 Tri State Pipe Co., Bellaire, Ohio.
 Wides Pipe & Supply Co., Cincinnati, O.
 —(Cast Iron.)
 Cast Iron Pipe Research Assn., Chicago.
 Glamorgan Pipe & Fdry. Co., Lynchburg, Va.
 U. S. Pipe & Fdry. Co., Burlington, N. J.

—(Hammer-Welded.)

National Tube Co., Pittsburgh, Pa.

—(Iron and Steel, Spiral.Welded.)
American Rolling Mill Co., Middletown, O.**—(Second-Hand.)**

Albert & Davidson Pipe Corp., Brooklyn, N. Y.
 Central Pipe & Sup. Co., Charleston, W. Va.
 Greenpoint Iron & Pipe Co., Brooklyn, N. Y.
 Marine Metal & Supply Co., New York.
 Maryland Pipe & Steel Corp., Baltimore, Md.
 McDowell Pipe Corp., Brooklyn, N. Y.
 Tri State Pipe Co., Bellaire, Ohio.
 Wides Pipe & Supply Co., Cincinnati, O.

—(Steel.)

Bethlehem Steel Co., Bethlehem, Pa.
 National Tube Co., Pittsburgh, Pa.
 Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
 Standard Piping & Fitting Co., Phila.
 Youngstown Sheet & Tube Co., Youngstown, Ohio.

PIPE (Fittings.)

Georgia Iron Works, Augusta, Ga.

Standard Piping & Fitting Co., Phila.

PIPE Machinery.

Quinn Wire & Iron Works, Boone, Iowa.

—Unions and Joints.

Dart Mfg. Co., E. M., Providence, R. I.

—Systems (Industrial.)

Moore Pipe & Sprinkler Co., Jacksonville, Fla.
 Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
 Standard Piping & Fitting Co., Phila.

PLATES (Steel and Iron.)

American Rolling Mill Co., Middletown, O.
 Bethlehem Steel Co., Bethlehem, Pa.
 Carnegie Steel Co., Pittsburgh, Pa.
 Central Iron & Steel Co., Harrisburg, Pa.
 Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
 Gulf States Steel Co., Birmingham, Ala.
 Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

POLES—(Tubular, Steel.)

National Tube Co., Pittsburgh, Pa.

—(Yellow Pine.)

Century Wood Preserving Co., Balto., Md.

POLISHING MACHINERY.(Wheels, Blocks.)
Carborundum Co., Niagara Falls, N. Y.**PORCH COLUMNS (Wood.)**

Schwerd Mfg. Co., A. F., Pittsburgh.

POSTS (Steel Fence.)

Atlantic Steel Co., Atlanta, Ga.

POWER TRANSMISSION MACHINERY.

Shofield's Sons Co., J. S., Macon, Ga.

PRESSES. (Baling, Cottonseed Oil, Hydraulic and Power.)

Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

PRINTERS (Book, Catalog, Job.)

Smith & Son Co., Oscar T., Baltimore, Md.

PULVERIZED COAL EQUIPMENT.

Fuller Lehigh Co., Fullerton, Pa.

PULVERIZERS. (See Crushing and Pulverizing Machinery.)

Fuller Lehigh Co., Fullerton, Pa.

PUMPING MACHINERY.

Fairbanks, Morse & Co., Chicago, Ill.

La Bour Co., Elkhart, Ind.

Layne & Bowler, Inc., Memphis, Tenn.

Myers & Bro. Co., The F. E., Ashland, O.

Virginia Mch. & Well Co., Richmond, Va.

PUMPS (Boiler Feed.)

DeLaval Steam Turbine Co., Trenton, N. J.

Myers & Bro. Co., The F. E., Ashland, O.

—(Centrifugal.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

DeLaval Steam Turbine Co., Trenton, N. J.

Fairbanks, Morse & Co., Chicago, Ill.

La Bour Co., Elkhart, Ind.

Layne & Bowler, Inc., Memphis, Tenn.

—(Deep Well.)

Layne & Bowler, Inc., Memphis, Tenn.

—(Hydraulic.)

Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

—(Pulverized Coal.)

Fuller Lehigh Co., Fullerton, Pa.

—(Sand and Dredging.)

Georgia Iron Works, Augusta, Ga.

—(Steam.)

Fairbanks, Morse & Co., Chicago, Ill.

—(Water Works.)

Layne & Bowler, Inc., Memphis, Tenn.

PUNCHING AND SHEARING MACHINERY.

Berisch & Co., Cambridge City, Ind.

RADIATOR ENCLOSURES.

Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

RAILINGS (Iron Pipe.)

Pipe Railing Constr. Co., Long Island City, N. Y.

RAILROAD Equipment and Supplies (New.)

Robinson & Orr, Pittsburgh, Pa.

—Equipment and Supplies (Used.)

Dyer Co., W. H., St. Louis, Mo.

Smith & Co., W. M., Birmingham, Ala.

Southern Iron and Equip. Co., Atlanta.

RAILROAD (Frogs and Switches)

Robinson & Orr, Pittsburgh, Pa.

RAILROADS — (Offering Industrial, Agricultural and Commercial Opportunities.)

Missouri Pacific R. R., St. Louis, Mo.

Model Land Company, Flagler System, St. Augustine, Fla.

Norfolk & Western Railway, Roanoke, Va.

RAILS (New and Used.)

Carnegie Steel Co., Pittsburgh, Pa.

Dyer Co., W. H., St. Louis, Mo.

Robinson & Orr, Pittsburgh, Pa.

Smith & Co., W. M., Birmingham, Ala.

Southern Iron & Equip. Co., Atlanta, Ga.

Sweet's Steel Co., Williamsport, Pa.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

RAILWAYS (Marine.)

Charleston Dry Dock and Machine Co., Charleston, S. C.

RECEPTACLES (Self-Closing—Waste Paper.)

Whitaker Paper Co., Baltimore, Md.

REINFORCING for Concrete.

American Steel and Wire Co., Balto., Md.

Atlantic Steel Co., Atlanta, Ga.

Austin Bros. Bridge Co., Atlanta, Ga.

Carnegie Steel Co., Pittsburgh, Pa.

Dietrich Brothers, Baltimore, Md.

Gulf States Steel Co., Birmingham, Ala.

RIVER & HARBOR IMPROVEMENTS (Dredging, Docks, Wharves, etc.)

Arundel Corp., Baltimore, Md.

Atlantic Gulf and Pacific Co., New York.

ROAD and Street Machinery.

Austin-Western Road Machinery Co., Chicago, Ill.

Buffalo-Springfield Roller Co., Springfield, O.

Caterpillar Tractor Co., Peoria, Ill.

Gallon Iron Wks. & Mfg. Co., Gallon, O.

—and Street Material.

Borley & Co., W. W., Roanoke, Va.

Koppers Products Co., Pittsburgh, Pa.

Woodstock Slag Corp., Birmingham, Ala.

—Graders and Scrapers.

Austin-Western Road Machinery Co., Chicago, Ill.

Caterpillar Tractor Co., Peoria, Ill.

Gallon Iron Wks. & Mfg. Co., Gallon, O.

—Oils and Preservatives.

Gulf Refining Co., Pittsburgh, Pa.

—Rollers (Steam and Gasoline.)

Austin-Western Road Machinery Co., Chicago, Ill.

Buffalo-Springfield Roller Co., Springfield, O.

—Scarifiers.

Austin-Western Road Mchry. Co., Chicago, Ill.

Buffalo-Springfield Roller Co., Springfield, O.

ROOFING (Asphalt Built-Up.)

Barber Asphalt Co., Philadelphia, Pa.

—(Ready Prepared, Felt, Tar Asbestos, Asphalt.)

Ruberoil Co., New York City.

ROOFING and Siding (Composition.)

Ruberoil Co., New York City.

—(Metal.)

American Rolling Mill Co., Middletown, O.

American Sheet and Tin Plate Co., Pittsburgh, Pa.

Gulf States Steel Co., Birmingham, Ala.

Youngstown Sheet and Tube Co., Youngstown, O.

SAFES.

York Safe & Lock Co., York, Penna.

SAND.

Arundel Corp., Baltimore, Md.

Friend & Co., Inc., Petersburg, Va.

SANITARY Drinking Fountains.

Bundie-Spence Mfg. Co., Milwaukee, Wis.

SAWMILL Machinery.

Schofield's Sons Co., J. S., Macon, Ga.

SAWS (Cold Metal.)

Earle Gear and Machine Co., Phila., Pa.

SCALES (Auto Truck.)

Fairbanks, Morse & Co., Chicago, Ill.

SCRAP IRON AND STEEL.

Smith & Co., W. M., Birmingham, Ala.

SCREEN CLOTH.

Seneca Wire & Mfg. Co., Fostoria, Ohio.

SCREENING (For Concrete and Road Construction.)

American Limestone Co., Knoxville, Tenn.

SCREENS (Sand, Gravel, Stone, Coal, Ore, etc.)

Erdie Perforating Co., Rochester, N. Y.

Grundler Crusher & Pulverizer Co., St. Louis, Mo.

Harrington & King Perf. Co., Chicago.

Mundi & Sons, Charles, Jersey City, N. J.

SCREW-Machine Products.

Progressive Mfg. Co., Torrington, Conn.

SEAWALLS.

Shore-Line Builders, Inc., Jacksonville, Fla.

SEWAGE Disposal Systems.

D-N Corporation, New York, N. Y.

SEWER Joint Compounds.

Leadite Co., Philadelphia, Pa.

—Pipe (Vitrified.)

Lee Clay Products Co., Clearfield, Ky.

Owensboro Sewer Pipe Co., Owensboro, Ky.

SEWER Pipe Machinery.

Quinn Wire & Iron Works, Boone, Iowa.

SHAFTING Material (Tubular.)

National Tube Co., Pittsburgh, Pa.

SHARPENING Stones.

Carborundum Co., Niagara Falls, N. Y.

SHEET Steel and Iron.

American Sheet and Tin Plate Co., Pittsburgh, Pa.

Bethlehem Steel Co., Bethlehem, Pa.

Gulf States Steel Co., Birmingham, Ala.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

Youngstown Sheet & Tube Co., Youngstown, O.

—Metal Working Machinery.

Bertsch & Co., Cambridge City, Ind.

SHEETS (Asbestos.)

Ruberoil Co., New York City.

—(Galvanized and Black.)

American Rolling Mill Co., Middletown.

American Sheet & Tin Plate Co., Pittsburgh, Pa.

SHINGLES (Asbestos.)

Ruberoil Co., New York City.

SHIPBUILDING.

Charleston Dry Dock & Machine Co., Charleston, S. C.

SHOVELS (Steam, Gas and Electric Power.)

Austin-Western Road Machinery Co., Chicago, Ill.

Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.

SILICATE OF SODA.

Grasselli Chemical Co., Inc., Birmingham.

SITES (Manufacturing.)

Associated Gas & Elec. System, New York, N. Y.

Crisp County Power Co., Cordele, Ga.

Galveston, Texas, City of.

Industrial Commission, Winston-Salem, N. C.

Missouri Pacific R. R., St. Louis, Mo.

Model Land Company (Flagler System), St. Augustine, Fla.

Norfolk & Western Railway, Roanoke, Va.

Seaboard Public Service Co., Alexandria, Va.

SLAG, For Concrete.

Woodstock Slag Corp., Birmingham, Ala.
—(Furnace.)
Woodstock Slag Corp., Birmingham, Ala.

SLINGS (Wire Rope.)

American Steel & Wire Co., Chicago, Ill.
Roebbing's Sons Co., John A., Trenton, N. J.

SLUICE GATES AND APPLIANCES.

Smith Co., S. Morgan, York, Pa.

SPEED REDUCERS.

Earle Gear & Mach. Co., Phila., Pa.

SPIKES (Railroad, Ship.)

Bethlehem Steel Co., Bethlehem, Pa.
Sweet's Steel Co., Williamsport, Pa.

SPRINGS (Machinery, Railway, Spiral Steel.)

American Steel & Wire Co., Balto., Md.

—(Wire—All Kinds.)

American Steel & Wire Co., Balto., Md.

SPRINKLERS (Automatic Fire.)

Moore Pipe & Sprinkler Co., Jacksonville, Fla.

STACKS (Iron and Steel.)

Birmingham Boiler and Engineering Co., Birmingham, Ala.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Hedges Walsh Weldner Co., Chattanooga.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Schofield's Sons Co., J. S., Macon, Ga.

U. S. Pipe & Foundry Co., Burlington, N. J.

Virginia Bridge & Iron Co., Roanoke, Va.

STAINS (Shingle, Woodwork.)

Cabot, Inc., Samuel, Boston, Mass.

STAIR TREADS.

Central Iron & Steel Co., Harrisburg, Pa.

STANDPIPES.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

STATIONERS (Envelopes, Letter and Billheads, etc.)

Smith & Son Co., Oscar T., Balto., Md.

Young & Selden Co., Baltimore, Md.

STEAM (Specialties.)

Lunkenheimer Co., The, Cincinnati, O.

STEEL.

American Rolling Mill Co., Middletown, O.

Bethlehem Steel Co., Bethlehem, Pa.

Central Iron & Steel Co., Harrisburg, Pa.

Dietrich Brothers, Baltimore, Md.

Gulf States Steel Co., Birmingham, Ala.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

Virginia Bridge & Iron Co., Roanoke, Va.

—(Cold Rolled.)

American Steel & Wire Co., Balto., Md.

—(Fabricators.)

United Welding Co., Middletown, O.

—(Tool, High Speed.)

Bethlehem Steel Co., Bethlehem, Pa.

STEEL Buildings (Designers and Builders.)

American Bridge Co., Pittsburgh, Pa.

Belmont Iron Works, Philadelphia, Pa.

Carolina Steel & Iron Co., Greensboro, N. C.

McClintic-Marshall Corp., Bethlehem, Pa.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Virginia Bridge & Iron Co., Roanoke, Va.

—Plate Construction (Riveted or Welded.)

Birmingham Boiler & Engr. Co., Birmingham, Ala.

Bristol Steel & Iron Works, Inc., Bristol, Va.

Carolina Steel & Iron Co., Greensboro, N. C.

Central Iron & Steel Co., Harrisburg, Pa.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Hedges Walsh Weldner Co., Chattanooga.

McClintic-Marshall Corp., Bethlehem, Pa.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Schofield's Sons Co., J. S., Macon, Ga.

United Welding Co., Middletown, O.

STOKERS (Mechanical.)

Alabama Stoker & Boiler Co., Birmingham, Ala.

Babcock & Wilcox Co., The, New York.
Detroit Stoker Company, Detroit, Mich.

STRUCTURAL STEEL AND IRON.

American Bridge Co., Pittsburgh, Pa.

Austin Bros. Bridge Co., Atlanta, Ga.

Belmont Iron Works, Philadelphia, Pa.

Bristol Steel & Iron Works, Inc., Bristol, Va.

Carnegie Steel Co., Pittsburgh, Pa.

Carolina Steel & Iron Co., Greensboro, N. C.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Dietrich Brothers, Baltimore, Md.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Roanoke Iron & Bridge Works, Inc., Roanoke, Va.

Snead Architectural Iron Works, Louisville, Ky.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

Virginia Bridge & Iron Co., Roanoke, Va.

SULPHATE OF ALUMINA.

Grasselli Chemical Co., Inc., Birmingham.

SULPHIDE OF SODA.

Grasselli Chemical Co., Inc., Birmingham.

SULPHURIC ACID.

Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

SUPER-HEATERS (Steam.)

Babcock & Wilcox Co., The, New York.

SURFACING (Roads and Streets)

Culbert & Sons, W. F., Marion, Va.

Koppers Products Co., Pittsburgh, Pa.

SURVEYS (Industrial.)

Technical Service Co., New York, N. Y.

—(Quantity.)

Spring, Charles Herbert, Greensboro, N. C.

SURVEYING INSTRUMENTS.

Weber Co., Inc., F., Philadelphia, Pa.

SWINGING ENGINES.

Dake Engine Co., Grand Haven, Mich.

SWITCHBOARDS, SWITCHES, ETC.

General Electric Co., Schenectady, N. Y.

Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.

SYSTEMS (Business.)

Ernst & Ernst, New York, N. Y.

TANKS (Air Compressor.)

Titusville Iron Works Co., Titusville, Pa.

—(Elevated Steel.)

Caldwell Co., Inc., W. E., Louisville, Ky.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Cole Mfg. Co., R. D., Newnan, Ga.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Schofield's Sons Co., J. S., Macon, Ga.

Virginia Bridge & Iron Co., Roanoke, Va.

—(Elevated Wood.)

Caldwell Co., Inc., W. E., Louisville, Ky.

Davis & Son, G. M., Palatka, Fla.

—(Iron and Steel.)

American Bridge Co., Pittsburgh, Pa.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Cole Mfg. Co., R. D., Newnan, Ga.

Finnigan Co., Inc., J. J., Atlanta, Ga.

McClintic-Marshall Corp., Bethlehem, Pa.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Schofield's Sons Co., J. S., Macon, Ga.

Titusville Iron Works Co., Titusville, Pa.

Virginia Bridge & Iron Co., Roanoke, Va.

Westinghouse Traction Brake Co., Wilmerding, Pa.

—(Seamless Steel.)

National Tube Co., Pittsburgh, Pa.

—(Storage, Oil, etc.)

Biggs Boiler Works, Akron, Ohio.

Birmingham Boiler & Engr. Co., Birmingham, Ala.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Titusville Iron Works Co., Titusville, Pa.

United Welding Co., Middletown, O.

—(Wood.)

Caldwell Co., Inc., W. E., Louisville, Ky.

Davis & Son, G. M., Palatka, Fla.

Virginia Mch. & Well Co., Richmond, Va.

TARPAULINS.

Atlanta Tent & Awning Co., East Point, Ga.

Fulton Bag & Cotton Mills, Atlanta, Ga.

TAX SPECIALISTS.

Ernst & Ernst, New York, N. Y.

TELEPHONE SERVICE.

American Telephone & Telegraph Co.

TENTS.

Fulton Bag & Cotton Mills, Atlanta, Ga.

TEXTILE CHEMICALS.

Grasselli Chemical Co., Inc., Birmingham.

TILE. (Floor.)

Hood Co., B. Miffin, Daisy, Tenn.

—(Roof.)

Hood Co., B. Miffin, Daisy, Tenn.

—(Sewer.)

Lee Clay Products Co., Clearfield, Ky.

TIN AND TERNE PLATES.

American Sheet & Tin Plate Co., Pittsburgh, Pa.

Youngstown Sheet & Tube Co., Youngstown, Ohio.

TOOLS and DIES.

Gerding Bros., Cincinnati, O.

TOWERS (Electric Transmission.)

American Bridge Co., Pittsburgh, Pa.

—(Steel and Wood.)

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Cole Mfg. Co., R. D., Newnan, Ga.

TRACK (Portable or Permanent.)

Equipment Corp. of America, Chicago, Ill.

Sweet's Steel Co., Williamsport, Pa.

TRACTORS (Industrial.)

Caterpillar Tractor Co., Peoria, Ill.

International Harvester Co. of America, Inc., Chicago, Ill.

—(Road.)

Caterpillar Tractor Co., Peoria, Ill.

TRAILERS (Arch-Girder, Heavy Duty.)

Wellman Engr. Co., Cleveland, O.

—Motor Truck.

Steel Products Co., Savannah, Ga.

TRAMRAIL SYSTEMS (Hand or Electric.)

Cleveland Crane & Engr. Co., Wickliffe, O.

TRAMWAYS (Aerial Wire Rope.)

American Steel & Wire Co., Balto., Md.

TRANSFORMERS.

General Electric Co., Schenectady, N. Y.

—(Used.)

Electric Service Co., Cincinnati, O.

Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.

TRANSMISSION TOWERS (Galvanized.)

McClintic-Marshall Corp., Bethlehem, Pa.

TRENCH MACHINERY. See Excavators (Trench.)**TRI-SODIUM PHOSPHATE.**

Grasselli Chemical Co., Inc., Birmingham.

TRUCKS (Motor.)

International Harvester Co. of America, Inc., Chicago, Ill.

TUBES (Boiler.) See Boiler Tubes.**TUBING (Seamless Steel.)**

National Tube Co., Pittsburgh, Pa.

TURBINES (Hydraulic.)

Smith Co., S. Morgan, York, Pa.

—(Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

DeLaval Steam Turbine Co., Trenton, N. J.

General Electric Co., Schenectady, N. Y.

Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.

TURNTABLES.

American Bridge Co., Pittsburgh, Pa.

Virginia Bridge & Iron Co., Roanoke, Va.

UNIONS.

Dart Mfg. Co., E. M., Providence, R. I.

VALVES.

La Bour Co., Elkhart, Ind.

Ludlow Valve Mfg. Co., The, Troy, N. Y.

Lunkenheimer Co., The, Cincinnati, Ohio.

—(Corrosive Liquids.)

La Bour Co., Elkhart, Ind.

—(Gate.)

Ludlow Valve Mfg. Co., The, Troy, N. Y.

Lunkenheimer Co., The, Cincinnati, Ohio.

—(Non-Corrosive Liquids.)

La Bour Co., Elkhart, Ind.

VAULTS (Bank and Safe Deposit.)

York Safe & Lock Co., York, Penna.

WAGONS (Crawlers.)

Austin-Western Road Mchry. Co., Chicago, Ill.

WARDROBES (Hygienic, School.)

Wilson Corp., The J. G., New York.

WATER HEATERS.

Finnigan Co., Inc., J. J., Atlanta, Ga.

WATER Purification.

Bacharach & Co., E. W., Kansas City.

International Filter Co., Chicago, Ill.

Roberts Filter Mfg. Co., Darby (Phila.) Pa.

—Softening Apparatus (Purifying.)

American Water Softener Co., Phila., Pa.

International Filter Co., Chicago, Ill.

—Works Supplies and Appliances.

Cast Iron Pipe Research Asso., Chicago.

Glamorgan Pipe & Fdry. Co., Lynchburg, Va.

Layne & Bowler, Inc., Memphis, Tenn.

Leadite Co., Philadelphia, Pa.

U. S. Pipe & Foundry Co., Burlington, N. J.

WELDING.

Charleston Dry Dock & Machine Co., Charleston, S. C.

Hedges-Walsh-Weldner Co., Chattanooga.

United Welding Co., Middletown, O.

WELDING APPARATUS (Electric Arc.)

General Electric Co., Schenectady, N. Y.

Layne & Bowler, Inc., Memphis, Tenn.

Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.

WELL CONTRACTORS (Oil, Artesian, etc.)

Layne & Bowler, Memphis, Tenn.

Virginia Mch. & Well Co., Richmond, Va.

WHEELS AND AXLES.

Carnegie Steel Co., Pittsburgh, Pa.

WINDOW WASHING EQUIPMENT (Tramrail.)

Cleveland Crane & Engr. Co., Wickliffe, O.

WIRE (All Kinds.)

American Steel & Wire Co., Chicago.

Seneca Wire & Mfg. Co., Fostoria, O.

—(Barbed Wire, etc.)

American Steel & Wire Co., Balto., Md.

Gulf States Steel Co., Birmingham, Ala.

Youngstown Sheet & Tube Co., Youngstown, Ohio.

—(Fence.)

Cyclone Fence Co., Waukegan, Ill.

Stewart Iron Works Co., Cincinnati, O.

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